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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by unalysis of the total score distribution.

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Result No.	5001 e	Query Match	Query Match bength 55	55	£7	Description
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t.	3420	99.5	189	N N	AAG63583	Synthetic amino ac
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Designing synthetic nucleic acid sequences for improved amplification, expression in host cell, by comparing free energy of folding of a starting polynucleotide and a modified polynucleotide having a codon

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Best Level Similarity 99.8%; Pred. No. 1.3e-247;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The present sequence represents a galactose oxidase enzyme. The polynucleotide was modified using using the method of the inventospecification describes a method for designing a synthetic
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                                                                                                                                                                                                                                                                                                                                                                                 The present sequence represents a codified galactese existes existed to polynuclectide was modified using using the method of the invention. The specification describes a method for designing a synthetic polynuclectide, the predicted for electronicity the predicted from energy of fidding a starting polynucleotide, determining the predicted from energy of fidding per base of the polynucleotide, modifying the polynucleotide by replacing a codon with a different color to provide a modified polynucleotide, determining free commany of folding per base of the modified polynucleotide, and comment of the original polynucleotide. The method is constituted for developing nucleic acid sequences that enhance expression of the synthetic genes are used in application of gene shuffling, of the synthetic genes are used in application of gene shuffling, and provided hosts are commercially viable levels, in particular coli and enlargetic hosts at commercially viable levels, in particular protections with low yield such as method allows the color of the synthetic hosts at commercially viable levels, in particular putida.
                                                                                                                                                                                                                                Matches 638; Conservative
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Bost Good Similarity
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                                           103 ttqnvnglsmlprqdgnqngwigrhevylssdqtnwgspvasgswfadsttkysnfetrp 162
                                                                                         61 TTONVNGLSMI PPODYNONGWIGPREVYLSSDGINWGSEVASGSWEADSTIKYSNEETRE 120
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                                                                                                                               asapigsaisrnnwavtedsaqsgneenkaidgnkdtfwhtfygangdpkpphtytidmk 102
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Novel polypoptide basing galactive activity to tradepenin plant
                     N-PSDB; AAA73477
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      361 GSGDVKSAGKKUSHECVALTAMICINAVNYTAVYTAVITTEOTSEGTZUSPATTIAHTITIC 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241 VTGGNDAKKTSLYDSSSDSWIPGPDMQVAFGYQSSATMSDGPVFTTGGSWSGGVFEKNGE 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       223 grvlm*ssyrndafygspyyithtss*dpstgi/sdrtvtvtkhdmfopgismdgngqiv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The present sequence is galactose oxidase from Fusarium venenatum. Galactose oxidase catalyses the oxidation of D-galactose in the presence of molecular oxygen to D-galacto-hexodialdose and hydrogen peroxide.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                179 TSGRVLMWSSYKNDAFGGS--PGGIILISSWDPSTGIVSDRTVTVTKHDMFCFGISMDGN 236
§33 altgagtnkysfkipndsgialpgywmlfvlnnagvpsvastikvt 678
                                                           593 TLTNNGGNSYSFQVPSDSGVALPGYWMLFVMNSAGVPSVASTIRVT 638
                                                                                                             573 lldyngmlatipkitavsaatakvystitvtänsaiksaslirygtathtvntdgrripl 632
                                                                                                                                                                         533 LYNSDGNLATRPKITHISTQSVKVGGRITISTDSSISKASLIRYGTATHTVNTDQRRIPL 592
                                                                                                                                                                                                                              513 pemyiptthefknqqpntiprtyhsmslllpdatvfngggglegsensnhfdagiftpq; 572
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                                                                                                                                                                                                                                                                                            473 PETYVPEQDIFYKONPNSTVRVYHSISLLIPPK:PVFNGGGGL/GF/CTTNHFDAQIFTFNY 532
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 Protein identification, signal transduction pathway, metabolic pathway, hyrridisalion assay, genetic mapping, gene expression control; promoter, termination sequence.
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       AAY35162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
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26-OCT-1999;
28-OCT-1999;
28-OCT-1999;
28-OCT-1999;
28-OCT-1999;
29-OCT-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Respiratory disease; pheumonia, bronchitis; heart disease; sarcoidosis; sinusitis; purulent otitis media; crythema nodosum; pharyngitis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAY35162 standard; Protein; 1146 AA
immunogenic compositions as vaccines. Vectors containing {\cal C}_{\rm c} pheumonic nucleotides sequences can also be used as immunogenic compositions, especially where the vector directs the expression of a neutralising
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      04-NOV-1998;
21-NOV-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               03-JUN-1999.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Chlamydia pneumoniae.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      vaccine; neutralising epitope.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Chlamydia pneumoniae cellular envelope protein.
                                                                                                       nodesum or pharyugitis. The polypeptides encoded by the open reading frames of the C. pneumoniae genome (see AAY34584 Y35875) can be used
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Genome sequence of Chlamydia pneumoniae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 1999-357842/30.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Griffais R;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (GEST ) GENSET.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20-NOV-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         439 PTFHTSVVI PROSTFITGGORRGIP--FERSTPVETPETYVPEQ---DIFYKUNPNSIVR 493
                                                                                                                                                                             disease, sarcoidosis, sinusitis, purulent otitis media, erythema
                                                                                                                                                                                                              C. pneumoniae causes respiratory disease such as pneumonia and bronchitis and is thought to be a contributing factor in heart
                                                                                                                                                                                                                                                                                    ANY34584-Y35879 represent the proteins encoded by all the open reading frames in the complete genome (see AAX91990) of Chlamydia pheumoniae.
                                                                                                                                                                                                                                                                                                                                                                                           Page 1027-1029; bisclosure; 1912pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           270 gagydiqavappngnisppgyylifaiyk-gvpstgewiqv 309
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       152 myhssaiilpdykvlvyysntmdyykysvefftelrvekfsppyldpalani--rpkivt 209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 494 VYHSISLLI,PDGPVFNGGGGLGGDCTTN-HFDAQI----FTPNYLYNSDGNLATRPKITR 548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    599 CNSYSFQ--VPSDSGVALPGYWMLFVMNSAGVPSVASTTRV 637
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99US-0161920.
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97FR-0014673.
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Pred NJ 2.12-08;
Pr. Mismatches 95; Indels 25;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  25;
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9908-01 9908-0150884 99US-1 9908-0149930 9908-0149929 99US-6149723 990S-0149725

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> 99US-0155486. 990S-0154779. 990S-0155139.

21-00T-1999; 21-00T-1999;

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9908-0160741

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9908-0160980 9908-0160815 9908-0150814

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                                                                                                                                                                                                                                                                                                                             beteure-related signalling gene, sunflower, neoxanthin cleavage encymo: NCE: umino ucid permease; AAP; glutamic acid rich protein; GRP; puthogen resistance; abscisic acid metabolism.
(1150N ) FIGNEER HI BRED INI INC
(110RA-) CURAGEN CORP.
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                                                                 18-AUG-1999; 99US-0149656
23-MAY-2000; 2000US-0206405
                                                                                                                                           17-AUG-2800; 2000WG-8522961.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -taiousuqkaisiydav------nvstkxtnaqelkinekaisiqtilfsqe 636
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CVAPUAMOSNAV-MYDAVKOKII TEGOSPDYQDSDATTNAHIITIGEPGTSPNTVFASNG 434
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PI Hidney DL. Crasta OR. Hu X. Lu G:

XX MPF: 2001 211215/21.

PT encoding neoxanthin clearage enzyme, uninc wild permease or glutamic proceeding acid-rich protein useful for increasing resistance of plant to a protein general control of protein useful for increasing resistance of plant to a protein general control of the sunflower (Helianthus annums). The genes encode a neoxanthin cleavage the sunflower (Helianthus annums). The genes encode a neoxanthin cleavage of the sunflower acid permease (AAF) and a quiramic acid rich contain (GRP). The signalling gene is useful for increasing the construct containing the gene in the the genematic acid rich generated or insect (e.g. European corn borer), preferably incorporating a construct containing the gene into the genema of the plant. The gene is useful for regulating gene expression in a plant, in response to a construct containing the gene into the genema of the plant. The gene is useful for stem-preferred regulation of gene expression in a plant, in response to a construct acid or expression with a pathogen, damage from a pathogen, condition of containing the gene useful in addition of gene expression in a plant. The gene is conditioned regulation of gene expression in the condition of containing the protein isolated from Synechecystis sport and content in plants. The present sequence represents a dutamuc acid rich containing the characterisation of sunflower AAP.

XX Sequence 1749 AA:
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E δÃ 2 Ş. В Вþ 9 망 2 Ę Opery Match 4.4%; Score 150; DB 2 Best Local Similarity 20.0%; Pred. No. 0.015; 424 -----TSP-----446 | | Idpleiivgttddlladpklvsvltittsldngnvildadqsiav--------390 ivwaddstrfsgnisagggtmgg----nggfvetsgakslmvddtarvntfatmyelgtw 445 330 dqiavqgatvdvsgnqqqqtvriqqdfqqqltipnasqtlidsnsvvkadalltgnqqtv 389 224 HOMECEGISMD ---CNCQIVVTCCNDAKKTSLYDSS-----SDSWIPGPDMQVARG---273 ashldlglarqpngs-- v+tngtmalvsplpqsvtisqnvdasgkstnissggqvalag 329 170 ---VPANAAIEPTSGRVLMWSSYRNDAFGGSPGGITLTSSWD---PSTGIVSDRTVTVTK 223 121 ARYVRLVAITEANGOPWTSIAEINVFOASSY-----TAPOPGIGRWGPTIDLPI----- 169 151 gsalqfgndqwf -------psqfatdlanpg l88 369 GKRQSNPQVARDAMOGNAVMYDAVKOKITTFGGSPDYQDSDATTNAHTTILGEPG-----64 ---NVNGLSMLPRQDGNQNGWIGRHEVYLSSDGTNWGSPVASGSWFADSTTKYSNFETRP 120 6 CSAISERH - WAVIIDSAIQSGHEIRARINGHINGHINGHINGHINGHINTINMETTI 63 ---qanfsadpsap-qn------ltf-----dsptitidalIslqtqsiifan 529 144; Conservative 84; Mismatches 249; Indels 244; Gaps --yagsatmspgpvftiggswsggvfeknbfvyspsskiwislenakvnemltalkagly 329 ririsqugslisleverspymngggstsvldlptlltgg 272 ----WKKGSV-FQAGPSTAMNWYYTSGSGDVKSA 368 -NTVFASNG--LYFARTFHTSVVLPDGSTFITG 456 DB 22; Length 1749; 34;

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                                                                                                                                                                                                   cancer-associated nucleic acid molecules (N) and proteins (P), where the proteins are collectively known as colon cancer antiqens. The colon cancer antiqens have cytostatic activity and can be used in spine therapy and vaccine production. N and P may be used in the prevention, diagnosis and treatment of diseases associated with inappropriate P expression For Axample. N and P may be used to treat discretes associated with decreased expression by restliving mutations or delations associated with decreased expression by restliving mutations or delations associated with decreased expression by restliving mutations or delations.
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                                                           inactive proteins or to suppliement the patients own production of f. Additionally. N may be used to produce the order expensive the number associated Ps. by inserting the number acids into a host cell and culturing the cell to express the proteins. N and P can be used in the providition, diagnosis and treatment of colorestal careinsens and careers. Addition of the and AAB77788 represent sequences used in the exemplification of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                05-APR-2001
missing at time of publication, meaning no sequences are present for
                   N.B. Pages 666 to 662 and page 7053 of the sequence listing were
                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 11; Page 7661-7664; 9803pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Nucleic acids ecodding 1277 basan online number associated polypeptides, useful for preventing, diagnosing and/or treating onlorsoral cancers -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                N-PSDB; AAH34858
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03-NOV-1999;
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  RESULT 13
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                                                                                                                                                                                                                                                                                                                                                                                        Human protein sequence SEQ ID NO:12047.
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(HELI-) HELIX RES INST
                                                             27-AUG-1999; 99JP-0300253.
11-JAN-2000; 2000JP-0183767.
02-MAY-2000; 2000JP-0183767.
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                                                                                                                                                                                                                                                                                                      Homo sapiens
                                                                                                                                                                                                                                                                                                                                             Human; primer; dwt.ection; diagnosis, antisense therapy; gene therapy
                                                                                                                                                                                                                                                                                                                                                                                                                                   26-JUN-2001 (first entry)
                                           :00007-Niif-60
                                                                                                                               29-Jul-1999;
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                                             2000 FP-024 1899
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ota I. Isodai T. Nishikawa T. Hayasbi K. Salto K. Yamamoto J.
Ishii S. Suqiyama I. Wakamatsu A. Naqai K. Otsuki T:
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WEI. 2001-318/49/34.

irinmor sets for synthesizing polynucleotides, particularly the  $5602 \pm i\,\mathrm{Hz}$ -length cDNAs defined in the specification, and for the detection and/or diagnosis of the abnormality of the proteins encoded by the full-length cDNAs -

Talm 8: SEQ 10 12047; 2537pp + CD ROM; English.

the prosent invention describes primer sets for synthesising 5602 militeraph ciwas defined in the specification. Where a primer set emprises: (a) an objac off primer and an objacusteotide comprises one of the complementary strand of a polynucleotide which comprises one of the 5602 nucleotide sequences defined in the specification, where the objaconic portion comprises at least 15 nucleotides; or (b) a combination of an objaconic portion of a polynucleotide which comprises a 5'-end sequence complementary to the complementary trand of a polynucleotide which comprises a 5'-end sequence complementary to a polynucleotide comprises at least 15 nucleotides and the combination of the 5'-end sequence, where the objaconic lootide which comprises a stead sequence, where the objaconic lootide comprises at least 15 nucleotides and the combination of the specification. The primers at least 15 nucleotides and the combination of the specification. The primers are useful for synthesising polynucleotides, particularly full-length cDNAs. The primers are useful for synthesising polynucleotides particularly full-length cDNAs. The primers are absorbably of the full-length cDNAs. The primers allow obtaining of the full-length cDNAs are sufficient to an AAH18742 represent buman cDNA sequences; AAB92446 to AAH95884 represent buman anino acid sequences; AAB92446 to AAH95884 represent buman anino acid sequences; AAB92446 to AAH95884 prepresent buman anino acid sequences; AAB92446 to AAH95884 prepresent oliquoncleotides, all of which are used in the exemplification of the present fivention.

Serptence 600 AA;

¥ Ë 40 Ş Guery Mutch best Local Similarity 447 wtl------fyeggfdgshaisev 534 44d (dvidp.tk)sts.cq inirrbqsavcclggylyiiggseswochtvor---ynponnt 466 259 GEVYSPSSKIWISLPNAKV-----27. folifiharnafqoortstpkloksistemaadeliekpmspmäggarsalgtaemmakli 320 187 hklldgolldgquestqsddd- higitqkkp- -----167 VMYDAVECETETE ASSEDYOISDATTNAHITTLGEPGTSPNTVFASNGLYFARTFHTSVV 446 8H YLSSDGIN-WCSPVASGSWFADSITKYSNFETRPARYVRLVAITEANGQPWTSIAE1--- 143 28 NEAC LIBELLEWILL (CARCITERENT) LIEMET LIBELUNGERBETELENGEWEGERET / 87 MWSSYRNDAFGGSPGGITLTSSWDPSTGIVSDRIVIVTKHDMFCPGISMDGNGQIVVTGG 244 WILEGWEETSVELAGIESTAMNWYYTSGSCHUKKSAGKEQSNEGVAPDAMOGN------A 386 suchsold begeny damiddwip upe inter-end greating klyivggsdpyggkglkn 439 ···--NVFOASSYTAPOPGLG-----RWGPTIDLPIVP-----AAAAIEPTSGRVL 184 indepolationsp... 93, Conservative YESSSESWIPSPEMOVARGYESSATMSPERFETTOGSWS-GGVFEKN 298 4.2%; Score 142.5; DB 22; Denyth 600; 19.1%, Pred. No. 9.927; Active 71; Mismatches 167, Indels 157, Gaps lrtvecynphtdhwsflapmrtprarfqmavlm---gqlyvvgg 380 hatrqspkyew. -----kivasektsnntylclavldgi 269 -----NPMITADKQGLYRSDNHA 335 DB 22, Length 600 -----Frenghkg.. ... 224

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                                                                                                                                                                                                                                                                                                                                                      Query Match 4.2%, Score 142.5; Best Local Similarity 19.1%; Pred, No. 0.03;
                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    autoimmune and inflammatory disorders such as AIDS, atherosclerosis, asthma, allergies, Crohn's disease, multiple sclerosis, irritable bowel syndrome, psoriasis, rheumatoid arthritis and intections, and cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The present invention provides the protein and coding sequences for tenhuman immune response molecules (designated IMUN-1 to IMUN-10). The sequences can be used in the diagnosis, treatment and prevention of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Novel human immune response molecules (IMUN), useful for diagnosing, required and preventing disorders associated with abnormal expression of IMUN, \rho addison's disease, allergies, anemia, asthma and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     06 JUL 2000; 2000WO-US18505
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                proliferation disorders including arteriosclerosis, cirrhosis and cancer
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  186 WSSYRNDAFGGSPGGITLTSSWDPSTGIVSDRTVTVTKHDMFCPGISMDGNGQIVVIGGN 245
                                            313 eviilhgruspqssptstpklskslsfemogdelickpmspmqyursqlqtaemnaklia 372
                                                                                             144 -----AAAAIEFISGRVLM 185
                                                                                                                                       267 - Essst ---- gelssphatvys----pkbewkivasektsnntylelavldqit 312
                                                                                                                                                                                                                                       229 hklldgnlldgqaevfqsddd----hiqfvqkkp-----prenghkq-----
                                                                                                                                                                                        88 YLSSDCTNWCSPVASCSWFADSTTKYSNFETFPARYVFLVAITFANGQPWTSIAEI---- 143
                                                                                                                                                                                                                                                                                 28 HKAIDSHKUIFWEIFYGANGDEKEEHIYIIDMETTÇNVNGLEMLEEÇIEINDNGWIGEHEV 87
                                                                                                                                                                                                                                                                                                                              93; Conservative 69; Mismatches 170; Indels 155;
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Best Local Similarity 19.1%; Pred. No. 0.04;
Matches 142, Conservative 95, Wigmatches 226; Indels 279; Gaps
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                                                                                                                                                                                                                        This invention describes a novel cold active protease, CP70 from Felavobacterium balastinum. The product of the invention is useful in determent compositions for use in cold temperature wash water. The characterization of the polymnolectide facilitates the production of an alternative relatively large source of cold acrive protease.
                                                                                                                                                                                                                                                                                                                                                                                                              Newly isolated CP70 polymerlestide exhibiting characteristics of Deposit No. FERM BP-6154
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                                                                                                                                                                                                                                                                                                                               441 eagnigpdphfgwgfina--kkg------adllvgksngsviftdetl 480
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                                                    601 SYSFOVESDSGVALPGYWMLFV 622
                                                                                                            540 tntiyypwk--ldadspmtpat-----kadntvdnveqvvldnpvpgrnyrievtnkg-- 590
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                                                                                                                                                                                                                                                                          SLLLPDGRVFNGGGGLCGDCTTNHFDAQIFTPNYLYNSD--GNLATR-----PKITRTS 550
----tlvndagtaapgnysiiv 608
                                                                                                                                                                    TQSVKVGGRITISTDSSISKASLIKYGTATHTV-NTDQ------RRIPLTLTNNGGN 600
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Search completed, January 3, 2002, 10:01:57 Job time: 97 sec

Minimum DB seq length: 0 Maximum DB seq length: 2000605000 Scoring table: Sequence: Fitle: Pertect score: Rus car om protein - protein search, using sw model Total number of hits satisfying chosen parameters: Searched: 219241 seqs. 76174552 residues January 3, 2002, 15:90:25; Search time 19.36 Seconds (Without aliquments) 2514.232 Million cell updates/sec Gapop  $10.0 \pm 6$ apext 0.5BLUSUM52 US-09-722-602-10 3425 1 ASAPIGSALUKNWAVICUS... GenCore version 4.5 Copyright (c) 1993 - 2630 Compuden Ltd. 219241

Maximum Match 190%
Listing first 45 summatics
Database: PIK\_68:\*

Post-processing: Minimum Match 0%

ase: PIK\_58:\*
1: pir::\*
2: pir2:\*
3: pir4:\*

Fied. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

hypothetical prote		1545	4.1		2.5
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hypothetical prote	14	1532	#2 	141.5	27
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Query Match 99.9%; Score 3420, DB 1, Length 728; Best Local Similarity 99.8%; Fred No 2.80-206; Matches 638, Conservative 1; Mismatches 0; Indels

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1 ASAPIGSAISRNNWAVTODSAOSGNEONKAIDGNKDIFWHTFYGANGDPKPPHTYTIDMK 60

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## ALIGNMENTS

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Transession: 686332
Kritweloalt, A., Eder, J.E., Pala, G.T., Federselel, R.A., Kawl, S., White, G., Alenso
Chin, C.W., Chung, M.F., Zeen, I., Zeaway, A.B., Ormway, A.B., Oreasy, T.H., Dewar, K.
Jusen, N.E., Highes, K.: Holzar, L.
Natore 408, 815-820, 2000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       hypothetical protein AAG12543.1 [imported] - Arabidopsis thaliana
C.Species: Arabidopsis thaliana (mouse-car cress)
Tipate: 02-Mar_2001 #sequence_revision 02-Mar-2001 #text_change 31-Mar-2001
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where Match 8.0%; Score 275; DB 2; best Local Similarity 24.4%, Fred. No. 76:10; Matches 127; Conservative 79; Mismatches 210;
                                                                                                                                                                                 May position: 1
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                                                                                                                                                   Superfamily: Arabidopsis thaliana hypothetical protein F5K20.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ERGISPNIVFASNGLYFARTEHTSVVLPDGSTFITGGØRRGIPFEDSTPVFTPEIYVPEQ 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SYSEQVESDSGVALEGYWMLEVMNSAGVESVASTIRVTO 639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HIFYKQNENSIVKYHSISLLLFEGRVENGGGGLCGECTINHEDAQIFTENYLYNSDGNL 540
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VIGGNDAKKTŠLYDSSSDSW1PGPDMQVAPGYQSSATMSDGPVFTTGGSWSGGVFEKNGE
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              Indels 104;
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                                                                                                                                                                                                                                                                                 340 TTIPRMYHSAAILLRDGRVLVGGSNPHAFYNYTGVLFPTFLSLEAFSPVYLQREFSNL--
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          10 PVVM---YDEINEG ESNISTENGNGEDWEGBAVSKIDGFAHSILYDVATRTIRELITV- 63
FTHKGKSPMYFVQVRTPRSANIAWPGYYMIFVVNQ-DIPS 496
                                                                  LTNNCGN-SYSFQV--PSDSGVALPGYWMLFVMNSAGVPS 630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GLYFARTFHISVVLPDGST-F11GGQRRGIPFE-DSTEVFTPEJYVPEQ---DTFYKONP 488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PEVENNTEGALEMEANNRAILLEYVKNTVVKIEPAIFGGGPBBV · · · · · · · · PSTG
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                                                                                                                                        RPKTISPEPQSMIKYGTNLKLKESVIGEVTTPAKVTMVPPFFTTHSFAMNQRVLVLUNVK 457
                                                                                                                                                                                                                                                                                                                                                   NSIVRVYHSISLLLPDGRVFNGGG-----GLCGDCTTNHEDAQIFTPNYLYNSDGNLAI 542
                                                                                                                                                                                                                                                                                                                                                                                                                      KMPHARVMGDMIPLPNGDVLLINGGSFGTAAWELGRTPVLAPDLYHPENPVGSRFESI.RP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAVMY-----DAVKGKILTFGGSPDYQDSDATTNAHIITLGEPG----TSPNTVFASN 433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SATMSDGRVETLOGSWSGGVEFKNGEVYSPSSKTWTSLPNAKVNPMLT-----ADKQGLY 329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        --QSNTWCSSGSVRPDGVLVQTGGDPFGELKTPTTSSPCNNNQCDWVEMNNGLKKRRWYAS 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VTKHDMFCPG1SMDGNGQIVVTGGN-DAK-KTSLYDSSSDS---WIP-GPDMQVARGYQS 274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ----RSDNHAWLFGWKKGSVFQAGPSTAMNWYYTSGSGDVKSAGKRQSNRGVAPDAMCG 384
                                                                                                                                                                                                           RPKITRTSTQS-VKVGGRITISTD-----SSISKASLIRYGTATHTVNTDORRIPL---T 593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -------SWDPSTGIVSDETVT 220
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C.Superiamily, Arabidopsis thaliana hyperhetical protein F5K20.250 c)Keywords: copper; metal binding; exidenoductase p;117 164,76.53.166 cysteinyltyposics (Cys.Tyr) #status predicted F;188,386,386,485/Finding site, copper (Tyr. Tyr. His. His) #status A; Experimental source: cultivar Columbia; BAC clone F1588 C; Genetics: R:Quetier, F., Benes, V.; Rechmann, S.; Barkova, D.; An submitted to the Protein Sequence Database, April 1999 A;Reference number: Z15794 A,Accession: T06758 probable galactose exidase (PC 1 1.3.9) P15B8.190 (similarity). Arabidopsis thaliana C/Species: Arabidopsis thaliana (mouse ear cress). C/Date. 23-Apr-1999 #sequence\_recision 23-Apr-1999 #text\_change 24 set 2000. C/Accession: T06758 A; Map position: C, Superfamily. ? A;Molecule type: DNA A;Fesidades 1 547 (200) A;Cross toforomes TMRLALD40660, SSPCH 0H00061, AISE;P1588.190 A:Cene: ATSP-F1SBR 190 Benes, V.; Rechmann, S.; Borkova, D.; Ansorge, W.; Salanoubat, predicted

30 몽

SMVSLFGGI

Matches 145, Conservative

Similarity

7.9%; Score 270; DB 2; 25.3%; Pred. No. 1.6e-09; 99; Mismatches 212;

inde'ls 116;

139 SIAEINVE ASSYTAPOPGLGEWÖRTIGI ETVRAAAAITET SGEVLMWSSYENDARGG 196

SMAILSEGQANPFLLQ---LDRW--EMLLPSIGISAMHMQLLHNGMVIMFD--RTD-FGT 69

PGC1TLESWDPST--------C1VSD--KTVTVTKHDMFCPG1SMDEN 236 CEYDETDTAEKFDGSAUSVILYDVSVAUIVAVIQVVILONVSSGAVLEN 125

Best Local Query Match

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A:No.o: F5K20,250
A:No.o: F5K20,250
O:Nopertamily: Arabidopsis thaliana hypothethoal protein F5K20,250
C:Negwords: copper; metal binding, oxidoreductase
F:116-168/7:oss-link: cysteinyltyrosino (CystTyr) #status predicted
F:168.490,391,483/Finding site: oupper (Tyr. Tyr. Fis. His) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              probable galactose Oxidase (DC 1.1.2.5) FER20.250 [similarity] - Arabidopsis thaliana GESpecies: Arabidopsis thaliana (mouse-car cross) CIDAte: 04 Feb-2005 #Sequence_teristic o4-feb-2005 #text_change i4-cet-2005 CIDATES TREES.
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A:Experimental source: cultivar Columbia; BAC crone F5K20
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A:Residues: 1-545 <MOND
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A; A; Gession: T45935
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4-1 VLVGGSNPHVYYNETHVEYYFILLSLEANSBEVLIFTSE---EIEPKILLGSDYVLSV--- 455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   297 OGIVVETOG NDAKKLS... - YEGGESWITTER NOVASONESSATMSTOFVETTED 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       456 RLENVDESTAQELTVDLLSVRTVAPSETTHSFAMNQRMVILKLISVTENQUTNSYPVSAL 515
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                                                                                                                                                                                                                           [12] DIWCSSOMETSDGSLEW LEGISLATION FOR THE TOWARD CITETION WAS NOT 172
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217 ETETVHELLEGECCONCETERANCHAVETCHEL MAVVEERFELL COFFHYESC "SSAMT - 273
                                                         PROLITION------ERIZER LA DELIMONENTE DE DEVE E E EN PROPEZSUR L'VAFOAMON PRA
                                                                                                                  AINTENESPRINASENTA : 1 1 : 1 : 1 : 1
                                                                                                                                                                  277 EMSDGRVFT 1,008W86CCVFB.kh.J.(A.) SESELWESEL BAKYNEMETALWZGLYFSFNHAW 13.6
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                                                                                                                                                                                                                                                                                                                                                                        Local Similarity
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                                                                                                                                                                                                                                                                                                                                       7.8%; Score 266; DB 2; Length 545; ilarity 27.0%; Pred. No. 2.8e-69; Conserration 67; Migmurphos 184; Indels 40: Caps
                                                                                                                     *ETTPERE *WWW.PFQFLADVED *KQMDW
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A.Authors: Hunter, J.L., Jenkins, J.; Johnson-Hopson, C.; Khan, S.; Kbaykin, F.; Kim, C.A.; Li, J.H.; Ll. Y.; Liu, X.X.; Liu, Z.A.; Lutos, J.S.; Maiti, R.; Marzia Ricco, M.; Rooney, T.; Bewley, D.; Sakano, H.
A.Authors: Salzberg, S.L.; Schwartz, J.P.; Shinn. P.; Southwick, A.M.; Sun, H.; Tallo Rer, M.; Wu, D.; Yu, G.; Fraser, C.M.; Venter, J.C.; Davis, R.W.
A.;Title: Sequence and analysis of chromosome 1 of the plant Arabidopsis.
A.;Accession. H86278
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R:Theologis, A.; Ecker, J.R.; Palm, C.T.; Pederspiel, N.A.; Kaul, S.; White, O.; Alon C.L.; C.W.; Chung, M.K.; Chun, L.; Crway, A.B.; Conway, A.P.; Creasy, T.H.; Dewar,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ansen, N.F.; Hughes, B.; Huizar, L. Nature 408, 816-820, 2000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              498 PSVPPGVGPYPTQCTAPPNGAVSPPGYYMAFAVNO-GVPSTARWIRI 543
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                441 -- PPFT-QEIPQTIPYGEVETVFVTVPLPVVTITQMNWGSAPFATHSESQGQRLVKLTVA 497
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              197 SPGGIILISSWD---PSTGI---- VSDRT ------VTV-- 221
                                                                                                                                                                                                                                                                                                                                                                       254 DSSSDSWIPG-PDMQVARGYQSSATMSDGRVFTTGG--SWSGGVFEKN-GE-VYSPSSKT 308
422 -- PGTSPNTVFASNGLYFAPTFHTSVVI PDGSTFTTGGQRRGIP-FEDST-PVFTPEIYV 477
                                                                   267 NYPSIGSS-VLLPLFLTGD-INRTKITAEVMVCGGAPPGAFFKAARTIPKIFVAGSRTCG 324
                                                                                                                                                                                                                                                                                                                                    153 GSVSCIWIENEAYLSSPEWYSINGILEGGETTIVGGEPAENYETYFKGFGESVENLRELA 212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      222 -----GNDAKKTSIY----- 253
                                                                                                                                                                                                     213 LTRDPNEENNLYPFLH. ---LLPDGNLFIFANRRSILFDFVNHRIIKEFPQIPGGDKR 266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      93 CSAHSILYDVASNTERPLTLRYDTWCSSGSLNASGSLIQTGGYGNGERTVRVFTPCDGGV 152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     33 SPLATITGGRWDLLQPSVGLSAMHMQLLHNNKVVIFDKTDYGPSNVSLPSQTCQNATVFD 92
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                                                                                                                                                                                                                                                                    WTSIPNAKYN--PMLTADKOGLYPSDNHAWLFGWKKGSVFQAGPSTAMNWYYTSGSGDVK 366
                                                                                                                                  SACKRESNESVAPTAMERNAVMYDAVKRKTLTERGSPDYQ DSDATTNAHIITLGE---- 421
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RySakurada, R., Ebta, I., Hasegawa, M.
J. Boeteriol. 174, 6896-6903, 1992
Agrift and Sidning and Agrees in. and haranterization of the Micromonospota viridifacions
Arbiteness number: A45244; MOID:93015752
A.Ancession. A45244
A.Status; preliminary; not compared with conceptual translation
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Marce le Jun-1993 #sequence_revision 18 Nov 1994 #text_change 12:0ct+1999
Corcession: A45244
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                                                                                                               William Genet. 226, 190-197, 1991
Artitle: The statidase gene from clostridium septicum: cloning, sequencing, expression
Arbeteinee immber: S15994; MUID:91238693
Arbetession: S15994
                                                                                                                                                                                                                       rww_u5]th statidase (E2 4.2.1.18) precursor * Clustridium septicum
V.Atternate names: neuraminidase
V.Species: *Clostridium septicum
V.Species: *Clostridium septicum
V.Species: *Love-1992 #sequence_revision 31-Dec-1992 #text_change 18-Jun-1999
V.Arcession: $15994
R.F.Chr. B.: Rothe, B.: Roggentin, P.: Schauer, 3.
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A;Residues: 1-647 (SAK>
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                              ArMolecule type: DNA
Arbosidaes: 1 1014 (M.E.
Artossiteletenegs, EMMLLAbizbo, Njoug4ee2, Flow (AA44916 L, Ellig48663
Trisupertamily: Clostridium exo-alpha-sialidase
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   634 KYAAVAELEV 643
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          19 DSAQSGNECNKA---IECOKETEWHTEYGANGDEKEPHTYTIDMKTTQNVNGLSMLERQD 75
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C:Reywords: glycosidase: hydrolase
E:1 26/Nomain, Signal sequence #status predicted <810 /
E:27-1014/Product. exoralpha sialidase #status predicted <MAT>
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Best Local Similarity 20.3%; Pred. No. 2.4e-05;
Matches 164, Censervative 101, Hismatches 281
                                                                                                                                                                                                                                           674 QAARMUNGQLKMEMENTGONSGRARIVITELDGOVLMEDDAAKUENIKEL-ACOTSATINS 235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              453 FITGGORRGIPFEDSTPVFTPEIYVPEQDTFYKONPNSIVRVYHS-----ISLL 501
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733 QKIDGKDALIFALPDANYPNRVNGTVRV 760
                                                                                                                                                                                                                                                                                                                                                                581 HTVNTDQRRIPLTLTNNGGNS---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   624 SAVIYSUDNGATW-NIGETATU-----GRIMDNGDBASAETITTNTSGGVGQL----TEC 673
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              564 YSDDDGQTWSDPIDINKEVKTDWMRFLGTGPGKGHWIKTGRYAGFLLFPVYLTNASGFQS 623
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               509 TYT--VREGVVYDSNGEATN---YTVDNNNELYENGNRLGNVLLSNSPLKVMGTSFLSLI 563
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   340 -----
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ----SUGNLATRPKITRTSTOSVKVCGRI-----TISTDSSISKASLIRYCTAT 580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -----WKKGSV-----FQAGPSTAMNW----YYTSGSG--- 363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NOTE VYSINSKI WISHIPMAK V NICHTAR TARENT SENTENCH STERNESSEN NICHTAR SENTENCH SENTEN
                                                                                                                     ---SAGVPS-VASTIRV 637
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                                                                                                                                                                                                                                                                                                                                                                             -----YSFQVPSDSGVALEGYWMLFVMN-- 624
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 1014;
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hypothetical protein SC3A7.16c - Streptomyces coelicolor C:Specties: Streptomyces coelicolor C:Specties: Streptomyces coelicolor C:Date: 25 Get 1999 #Sequence\_terision 22 Get 1999 #text\_classe 22 Get 1999 C:Arcession. T29485 R:Parkhill, J.: Birrell, B.G.; Rajandream, M.A.

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ArResidues: 1-2468 <$100
ArCruss references: CB.AECO4613: GB-AEO51651; YED 35017976, PIDM AACO5COA.1. GSEDB.GNOC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RiStover, C.K., Fham, X.C., Erwin, A.E., Mizbaucki, S.D., Warrener, P.; Hickey, M.J.; Bradman, S.; Yuan, E., Brui, E.J., Coulter, E.H., Luiger, E.F., Fis, A., Larbij, E., Elb., Lory, S.; Olson, M.V.
Natare 406, 959-964, 2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           hypothetical protein PA1874 [imported] - Pseudomonas aeruginosa (strain PAO1) C:Species: Pseudomonas aeruginosa (c:Species: Pseudomonas aeruginosa (c:Species: 15-Sep-2000 #sequence_revision 15-Sep-2000 #text_change 31-Dec-2000 C:Accession: A83412
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Armoleoule type: DNA
Armossidues: 1-1361 spako
Arctussiteferences, DMBLALO31155; HID:cl313489, pro statasos) prox caa20079.1
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A:Flatas | Felimina
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 5.8%; Score 197; DE 2: Length 2468; Best Local Similarity 19.5%; Fred. No. 6.88845; Matches 170; Conservative 89; Mismatches 301; Indels 310; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   145 VEQASSYTAPOPGLGRWGPTIDLP 168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      y Match 5.8%: Score 197: DB 2; Length 1361;
Local Similarity 26.5%; Fred. No. 9.0002;
hes 54; Conservative 25; Mismatches 69; Indels 56; Gaps
678 NGTTLSGTAEPGATVILIDANGNP---IGQVIA------DGSGNWSFTPTTPLPNG 724
                                                                 125 ------RLVAITEANGOPWTSIAEINVFQASSYTAPOPGLGRWG--PTIDLP-- 168
                                                                                                                                  622 Q····VIADGSGNWIPIESIELENGTVVHATATDESGNASSPASVTVDAVAFATEVVNES 677
                                                                                                                                                                                                                                                          563 VNVVARDAAGNSSPRAGVIVUAVARAIFTVDESNGTTLSGTAEFGSSVTLIDGNGNE IG 621
                                                                                                                                                                                                                                                                                                                                                                                               504 APMAPYVERCHOSELISOTARPOLISVI-LIEGNONPIGGITAGANOMSFTPSTPLPEGIV 562
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                                                                                                                                                                                               84 RHEVYLSSOGT - NW
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1279 TTADGS----GNWSF----TPGTPLANGTV 1300
                                                                                                                                                                                                                                       1166 INPSNGVVISGTAEAGATVTLTDAGGNPIGQVTADGSGNWSFTPG-----TPLANGTVI 1219
                                                                                                                                                                                                                                                                                                                                                               1106 DGNGNPIAEVTADGSGNWTYTPSTPIANGTVVNVVAQDASGNSSPPATVTVDSSAPPAPV 1165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1046 STPLADGTVVNATATDPAGNTGGQGSTTVDAIAPATPTVNLSNGSSLSGTAEPGSTVILT 1105
                                                                                                                     1220 VATATDETGNTGEQAATTVDAVAEFAEVIDESNOTTISGTAEAGAKVII TOONGNPIG-E 1278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           897 D----AAGUSSPGASVTVISQAPAAPVVNPSNGTTLSGTAEPGATVTIJTDGRGRFIGQVT 952
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           289 DGKVETIGGSWSGGVFEKNGE-----VYSPSSKT-- WISLFNAKV-------NFM LT 322
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        777 TDGNGNPIGQYTADGSGNWSFTFSTFLADGTYVNATATDPAGNTSGQGSTTVDGVAPTTP 836
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                                                       606 VPSUSGVALPGYWMLFVMNSAGVPSVASTI 635
                                                                                                                                                                            547 TRTSTQSV-KVGGRITISTDSSISKASLIRYGTATHTVNTDQRRIPLTLTNNGGNSYSFQ 605
                                                                                                                                                                                                                                                                                                 501 LLP-DGRVFNG------GGGLGGDCTTNHFDAQIFTPNYLYNSDGNLATRPKI 546
                                                                                                                                                                                                                                                                                                                                                                                                                          449 DGS----TFITGGGRPGIPFFDSTPVFTPFIY-VPFGDTFYKQNPNSIVRVYHS---ISL 500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               410 ATTMAHIITLGEPGTSP---------NTVFASNGLYFAPTFH--TSVVLP 448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     837 TVNLSNGSSLSGTAEPGSTVILTDGNGNPIAEVTADGSGNWTYTPSTPIANGTVVNVVAQ 896
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          226 --MFCPGISMDGNGQ----IVVTGGNDAKKTSLYDSSSDSWIPGPDMQVARGYQSSATMS 279
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TOS TVVNATATDASGNTSAGSSVTVDSVAPATOVINDSNGTTLSGTA------EPGSSVTL 776
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        358 ACKPUSNEGVAPUAMUGNAVMYDAVKGKI-------ITFGGSPDYQDSD 409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APASTTVDSVAPAAPVVNPSNGAFISGIAEFGATVILIEGSGNPIGQVTADGSGNWSFTF 1045
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RESULT 10 A48296

glyowal exidase (EC.1.2.3.-) procursor - basidiomycete (Phanerochaete chrysosporium C. Secies: Phanerochaete chrysosporium C. Secies: Phanerochaete chrysosporium C. Date: 27-Jun-1994 #sequence\_revision 27-Jun-1994 #text\_change 31-Mar-2001 C. Accession: A48296 Proc. Natl. Acad. Sci. U.S.A. 90, 7411-7413, 1993 A. Title: Clouding and characterization of a cDNA chooling glyoxal exidase. B H-20-2-pr A. Accession: A48296 MUID: 93348282 A. Accession: A48296 A. Accession: A48296 MUID: 93348282 A. Accession: A48296 MUID: 93348282 A. Accession: A48296 NCIP C. Septentiality A. A. A. Resigues 1-559 CRF. B991 A. Cross: references CRF. L1891 A. Accession: Accessiones CRF. L1891 C. Septentiality A. A. A. Resigues 1-559 CRF. L1891 C. Septentiality A. A. A. Resigues 1-559 CRF. L1891 C. Septentiality A. A. A. Resigues CRF. L1891 C. Septentiality C. A. A. Resigues C. Septentiality C. A. A. A. Resigues C. Septentiality C. A. A. Resigues C. Septentiality C. A. A. Resigues C. Septentiality C. A. A. A. Resigues C. Septentiality C. A. A. A. Resigues C. A. A. A. Resigues C. A. A. A. R

9

Matches 132; Conservative

Query Mutch 5.3%; Score 182.5; DR 2: Length 559; Bost Local Similarity 21.8%; Pred No. 0 00049;

139 SIAEINVFQASSYTAP----QPGLGRWGPTIDLPIVPAAAAIEPTSGRVIMWSSYRNDAF 194

85; Mismatches 220; Indels 169; Gaps

30;

3 SLLAVVSLAAATLAAPAASDAPG-WRFDLKPNLSGIVALEAIVVNSSLVVIF----DRAT 57

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1404 TLPKT----GDDS------------MNSAEAIALGISALLGVMFLTE 1434
                                                                                                                                                                                                                                                                            1356 GEVINPDGTVSGKNSNTPTPNNSGSTSGSTAKTLSSNSGFS----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1361 GTGDOVIKPNGPSVSNPPGSTTI PGGGTVTNPGGTVNVPGGTVDP-----DGTTHLUN 1355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1036 PPD SYNVPGSTVVDFDATIHLAACTVINDAASAATVPGDECKTGTDDTTLNPNSPVVP 1094
                                                                                                                                  580 RIPLILINGGNSYSFQVPSDSGVALPGYWMLFVMNSA-----GVPSVASTIRVIQ 639
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probable PTX lamily exoprotein [imported] - Escherichia coli (strain 0157:H7)
C;Species: Escherichia coli
C;Catte 16 FT: 2001 #st-parmet\_resision 16 Ft 2001 #text\_change 31 Mar 2001
C;Accession: BB5547
E;Fully H.T., Flockett III, G., Burland, V.; Maw. B.; Glasher, J.C.: Pose, D.J.: May
liler, L.: Grotbeck, E.J.; Davis, N.W.; H.M., A.; Dimalanta, E.; Potamousis, K.; Apoda
Nature 409, 529-533, 2001
A;Title: Genome sequence of enterohemorrhagic Escherichia coli 0157:H7.
A;Refetence number A85480, MUID.21074945; FM:D:11206551
A;Residues: prellminary
A;Molecule type: DNA
A;Fcsidues: prellminary
A,Molecule type: DNA
A;Fcsidues: 1 5188 csycs
A;Coucs: icCorches. GB:AE005174, NIC.41271336, FM:D:11206551
A;Cattes: icCorches. GB:AE005174, NIC.41271336, FM:D:1206551
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62 TOWNSLSMIDERCHONOMORHEMYLSSI-NINWGSPV-ASSSWFARSTIKYSNEET-R 119

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A:Map position: X A:Introes (A):1 From the contract of the co
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Alaccession: 134444

Alaccession: Type: DNA

Almolecule type: DNA

Alaccession: 1-2232 (CHI)

Alaccession: 1
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A:Description: The sequence of C. elegans cosmid K06A9
A:Returence number: Z21525
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CrSpecies: Caenorhabditis elegans
CrDate: 20-Cathleo www.accathleons.com/sibs 20-Cam 1996 wifest_chara 18-6-6-2006
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R:Geisel, C.: Gattung, S.
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Avia-Clare III Avjergillus aculeatus
C:Species: Aspergillus aculeatus
C:Date: G1:Reb 1999 #sequence_revision G1:Reb:1999 #text_change 16-Jul-1999
C:Accession: T00349
A)Gene: aviIII
C.Superfamily: fungal elliclose bleding domain homology
E,823-854/Domain: fungal cellulose binding domain homology sFCBs
                                                                                                                                                                                                                           A:Status: proliminary: translated from GR/EMBL/DDBJ A:Molecule type: mPNA A.Pesilaes 1996 AFA
                                                                                                                                                                                                                                                                                                                                                                                                R;Arai, M.; Takada, G.; Kawaguchi, T.; Sumitani, J. Submitted to the EMBL Data Library. June 1998 A;Description: Avicelase III from Aspergillus aculeatus. A Beforence n.cher. 214141
                                                                                                                                             C; Genetics
                                                                                                                                                                                  A;Cross references, EMBL:AB015511, NID:d1199887; FID:d1029971
                                                                                                                                                                                                                                                                                                                                                            A;Accession. T00349
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Best Local Similarity 19.9%; Pred. No. 0.07;
Matches 142, Conservative 94; Mismatches 374; Indels 102.
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chilibase (E. 3.2.1.14) homolog - Streptomyces lividans
lispecies: Streptomyces lividans
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A:Molecule Type: DNA
A:Residaes: 1-1433 - Vo2>
A:Cross-ioferences: EMHL:U22894; PIDN:AAC46445.1
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AMADERIC 1-1433 VOL.
AMADERIC 1-160263 EMBL:022894; PIDN:AAC46443.]
AMADERIC 130263
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4.7%; Score 159.5; DB 2; Length 856;
Rest Local Similarity 20.8%; Fred. Nc. 3.024,
Matches 138; Conservative 75; Mismatches 259; Indels 191; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             854 VPS 856
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STALIDASE PRECURSOR (EC 3 2 1 19) (NEURAMINITASE)
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STRAIN-AIGC 31146:
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"The three domains of a bacterial sialidase: a beta-propeller,
immun.plobulic module and a galactose-binding Jelly-rell,";
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CATALYTIC ACTIVITY: REPROLISTS OF 2,3, 2,6 AND 2,8-GLYCOSTIGIC
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PDB: 1EUT: 11-JAN-97.
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Ol-APP-1993 (Rel. 25, Created)
Ol-APP-1993 (Rel. 25, Last sequence update)
Ol-ADP-2001 (Rel. 40, Last annotation update)
SIALIDASE PRECURSOR (EC 3.2 1 18) (NEUPAMINIDASE)
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                                                        sequences in sialidases and other proteins.";
Med Gen Cenet 226.190-197(1991)
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STRAIDENC 0054714;
MEDIANE 2033869; Fulbood 2031213,
MEDIANE 3. Solution F., Solution F.;
Fither R., Solution F., Prograntion F., Solution F.;
"The stalldase gene from Clostridium septicum, cloning, Sequencing,
expression in Escherichia coll and identification of conserved
                                                                                                                                                                                                                                                                                        Clostridium septicum
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or send an email to license@isb-sib.ch).
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val Similarity 20.3%; Prod. No. 1.1e-05;
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20-AUG-2001 (Rel. 40; Created)
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20-AUG-2001 (Rel. 40; Last annotation update)
20-AUG-2001 (Rel. 40; Last annotation update)
                                                                                    Takeuchi H., Nishida J., Shibata K., Fujinada R., Yoneda H., Matsushima H., Tanaka C., Purukawa S., Miura K., Nakazawa A., Ishii K., Shiba T., Hattori M., Kubara S., Nakazawa T.; Tomparison of outer membrane protein genes omp and pup in the whole
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Read T.D., Brunham R.C., Shen C., Gill S.R., Heidelberg J.P.,
White O., Hickey E.K., Peterson J., Utterback T., Berry K., Bass S.,
Linher K., Weidman J., Khouri H., Graven B., Powman C., Podson R.,
Gwinn M., Nelson W., DeBoy E., Kolonay J., McClarty S., Saltberg S.L.,
Elsen J., Fraser C.M.,
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genome sequences of Chlamydia pneumoniae isolates from Japan and the
United States.":
                                                                                                                                                                                                                                                                                                                      MEDLINE-20298986; PubMed 10839753;
Shirai M., Hirakawa H., Ouchi K.,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Geneme sequences of Chlamydia trachematis MoPn and Chlamydia pneumoniae AR39.";
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It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
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Pred. No.
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C02470;
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01-JUL-1993 (Rel. 26, Last sequence update)
15-JUL-1998 (Rel. 36, Last annotation update)
PLI-TYPE PROTEINASE PRECURSOR (EC 3.4.21.96) (LACTOCEPIN) (CELL WALL-ASSOCIATED SEPINE PROTEINASE) (LP151).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               this SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by mon-profit institutions as long as its content is in its way modified and this statement is not removed. Usage by and for commercial outlines a license adreshed (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -i- CATALYTIC ACTIVITY: ENDOPEPTIDASE ACTIVITY WITH VERY BROAD SPECIFICITY, ALTHOUGH SOME SHESTE PREFERENCE HAVE REEN NOTED, E.G. LARGE HYDROPHOBIC RESIDES IN THE P1 AND P4 POSITIONS, AND P80 IN THE P2 POSITION REST KNOWN FOR ITS ACTION ON CASEINS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE-92226694; PibMcd-1564442;
Naes H., Nissen-Meyer J.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bacteria, Firmicutes; Bacillus/Ciostiidium gioup; Lactobaciilaceae;
Lactobacillus.
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                                                                                                                                                                                                                                                      PROSITE: PS00136: SUBTILASE_ASP: 1.
PROSITE: PS00137; SUBTILASE_HIS: 1.
PSOSITE: PS00138: SUBTILASE_SER: 1.
                                                                                                                                                                                                                                                                                                                                                       InterPro, IPP(nuzuw; Peptidase_S8)
p(am; PP(00746; Gram_pos_anchor; 1)
Pfam; PP(02225; PA; 1)
Pfam (PP(02025; PG; dase_S8; 3)
PRINTS; PR(0723; SUBTILISIN.
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   TRANSMEM
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -!- FUNCTION: PROTEASE WHICH BREAKS DOWN MILK PROTEINS DURING THE GROWTH OF THE RACTERIA ON MILK.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SIMILAPITY: BELONGS TO PEPTIDASE FAMILY S8; ALSO KNOWN AS THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ALTHOUGH IT HAS BEEN SHOWN TO HYDROLYSE HEMOGLOBIN AND OXIDIZED
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WILSTIE
                KHIL_MOUSE STANDARD; PPT; 751 AA. 0/JJT4: 25 AUC 2501 (kcl. 40, Created) 26-AUC 2501 (kcl. 40, Last sequence update) 25-AUC-2001 (kcl. 40, Last annotation update)
                                                                                                                                                                                                                                 1238 G--TVSSDTKTVNVGDTVAALDAQHHFSVDVPVNYGDNTIKVTATDEDGNTTTEQ 1290
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                                                                                                                                                                                                                                                                               SIS GRITISIDS-SISKASLIRYGTATH-----TVNTTQRRIPLTLTNNGGNSYSFQ 605
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           658 DELKIVEMNIADEIN------IINYNNVI------VSEFRQGAGLVDVKA 695
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Z SASTGSALSTKRIWAVIGUSAQSTTTTTT GNECT INKALISHKULEWHIEYGANGDEKE 51
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Matches 76; Conserv
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InterPro; [PR001798; Kelch.
pfam; pp00651; RTB; ]
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"The SCAB transcript is an antisease RNA (5 a brain specific transcript encoding a nevel actic binding protein (KLHLI).";
Hum. Mol. Genet 9:1543-1551(2000).
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Eukaryota: Motazoa: Chordata: Craniata: Vertebrata: Euteléostomi:
Mammalia: Eutheria: Rodontia: Soluroquathi: Moridae: Murinae: Mus
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658 HDAPASHHCSRLLDYVERYEFKTDTWTWVAPLSMFB - DAVGVCLLGDBLYAVGG
                                                                                                                                                                                                                                                                                                                    462 GTLYAVGGMUNNKGATTIEKYDI.PTNIWIQA-GMMNGFRIQFGVAVIIDKI FVIGG---KD 518
                                                                                                                                                          570 LNTVERWDPQSQQWTY------VASMSTARSTVGVA-----ALNGKTYSVGG- 610
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                                                                                -----RDGSSCLSSMEYYDDHTNKWSMCDPMCKKRGGV-----GVATCDGFLYAVGG 657
                                    QRRGIPFEDSTPVETPELYVPEQDTEYKQNPNSIVRVYHSISLLLPDGRVFNGGGLOGD 517
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24.4%; Pred. No. 0.12;
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Yeast 10:869-874 (1994).

-1 FOUNTION ESSENTIAL INFORMAT IF WILLEAR FOR CONTIENT NUCLEOPORIUS MAY BY INVELVED IN BINGHAD AND FRANCISCANTION THE PROTEINS LORING NUCLEON FOR COMPIEX.

-1 SUBCRIBIOLAR LOCATION, NUCLEON FOR COMPIEX.

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Wente S.R., kout M.P., Blobel G.;
"A new tamily of yeast suclear pore complex proteins.";
J. Cell Biol. 119:705-723(1992).
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Saccharomycetales: Saccharomycetaceae; Saccharomyces.
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Nuclear protein: Transports Repeat.
C.MAIN 3: CO1 2) X C.A. AFTE.XIMATE REPEATS OF G-L-P-G.
SPOMPHYS: 959 AA, 5938; MW, 7938;T9501REAAT1 SFEEL.
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or send an email to license@isb-sib.ch).
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There are no restrictions on use by non-profit institutions as rong as its content is in so modified and this statement is not removed. Usage by and for connect
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It is preduced through a coliaboration between the Swiss Institute of Bioinformatics and the EMBL outstation
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; 21A33C4C683DBC8F CRC64;
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Query Match 4.0
Best Local Similarity 24.5
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                                                                                                                                                                                                                                                                                                                                                                                                        This SNISS-FMOT Letty is expyright in produced the EMBL outstation between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way madified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MELLING-2027/182; PubMed=10819381; Ruguse I., Kikume R., Ishikawa K. I., Hirosawa M., Chara O.; Prediction of the coding sequences of unidentified buman genes. XVI The complete sequences of 100 new cDNA clones from brain which code
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE=20347694; PubMed=10888605; Koob M.D., Nemes J.P., Benzow K.A.; The SCA8 transcript is an antisense RNA to a brain-specific transcript encoding a novel actin-binding protein (KLHLI)."; Hum Mol. Genet 9:1543-1551(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens (Human).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata; Euteleostomi;
Mammalla, Eutheria, Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20-AMS-2001 (Bel. 40, Last sequence epdate) 20-AMS-2001 (Bel. 40, Last annotation update) KELTH-LIKE PROTEIN 1. KLHLI OF KIAA1490.
                                                                                                                                                                                                                                                              Pfam; PF00651; BTB; 1. Pfam; PF01344; Kelch; 6
                                                                                                                                                                                                                                                                                                                                  EMBL; AB040923; BAA96014.1; ALT_INIT.
EMBL; AL353738; CAC16128.1; -
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InterPro: IPR001798; Kelch.
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24.5%; Pred. No. 0.18;
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PROSITE: PS50082; WD_KEPEATS_2: 10.
PROSITE: PS50294; WD_KEPEATS_REGION: 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        entities requires a liberse agreement (See http://www.isk-Siberbylnboomseo
or send an email to licensesisb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     the European Bioinformatics lestitute. There are no restrictions on use by non-profit institutions as long as its content is in no modified and this statement is not removed. Usage by and for common
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Hoinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        beta homologous domain.";
dene 162.135·139(1995).
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"A gene responsible for regetative incompatibility in the fungus
Podospora anserina encodes a protein with a STE binding motif and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Enkaryota: Fungi; Ascomycota: Pezizomycotina; Sordariomycetes:
Sordariales: Lasiosphaeriaceae: Podospora.
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15-JUL-1998 (Rel. 36, Last sequence update)
20-AUG-2001 (Rel. 40, Last admotation updat
                                                                                                                                                                                                                                                                                                                                                                                            Pfam; PF00400; WD40;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SIMILARITY, CONTAINS 10 WE REPEATS (THE ASP DOMAINS).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FUNCTION: RESPONSIBLE FOR VESSIATIVE INCOMPATIBILITY THROUGH SPECIFIC INTERACTIONS WITH DIFFERENT ALLERES OF THE UNLINKED GENE.
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DE DE DE DE

Rickettsia japonica

OMPB

30-MAY-2000 (Rel. 39, Last sequence update)
20-ANG-2001 (Rel. 49, Last sequence update)
20-ANG-2001 (Rel. 49, Last sequence update)
20-EMBEANE PROTEIN B PRECURSOR (158 KDA SURFACE-LAYER PROTEIN)
(SURFACE PROTEIN ANTIGEN) (CELL SURFACE ANTIGEN 5) (SCA5) (ROMPB)
(FOMP B) [CONTAINS: 120 KDA SUFFACE-EXPOSED PROTEIN (SURFACE PROTEINE)

ANTIGEN) (120 KDA OUTER MEMBRANE PROTEIN OMPR): 32 KDA BETA PEPTIDE

OMPB\_RICJA

OMPH\_RICJA

STANDARD;

PRT;

1656 AA

30-MAY-2000 (Rel. 39, Created)

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REPEAT
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1299 VCYSYGLGQDHRWI 1312
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                                              606 VPSDSGVALPGYWM 619
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  907 IKIMDAASGICIQILEGHGGE-VQSVAFS-PIRIÇEVASGSUDHTIKIMDAASGICIQILE 964
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3 APIGSAISR------ NNWAVTCDSAQS-GNECNKAIDGNKDTFWHTFYGANG------D 48
                                                                                        SCHUTQTLNVC-----
                                                                                                                                    TRISTQSVKVCGRITISTDSSISKASLIRYGTATHTVNTDQRRIPL-TLTNNGGNSYSFQ 605
                                                                                                                                                                                -----KIWDTASSICTQTLESHGGWVQSVAFSPDGQRVASGSSDNTIKIWDTA 1249
                                                                                                                                                                                                                                                                                                                         GLYFAPTFHTSVVLPDGSTFITGGQRRGIPFEDSTPVFTPEIYVPEQDTFYKQNPNSIVR 493
                                                                                                                                                                                                                                                                                                                                                                       DAASGTCTQTLEGHCGWVHSVAFSPDGQPVASGSIDGTIK---IWDAASGTCTQTLEGHG 1177
                                                                                                                                                                                                                                                                                                                                                                                                                                                               -----TIKIWDAYSGTCTQILEGHGDSVWSVAFSPDGQRVASGSIDGTIKIW 1120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GWKKGSVFQAGPSTAMNWYYTSGS-----GD-VKSAGKKQSNFGVAPDAMCGNAVMY 389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -----GGWVQSV-----VFSPDGQRVAS------GSDDH---- 1073
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SDGRYFTIGGSWSGGVFEKNGEVYSPSSKTWTSLPNAKVNPMLTADKQGLYRSDNHAWLF 338
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GRWCPTIDLPIVPAAAAIEPTSGRVLMWSSYRNDAFGGSPGGITLTSSWDPSTGIVSDRT 218
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                                                                                                                                                                                                                              VYHSISLLUPPORVENGGGI/GEGTTNH---FEAQIFTFNYIYNSDGNLATRPKI---- 546
                                                                                                                                                                                                                                                                             GWVQSVAFS----PDGQRVASGSSDKTI------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ---TIKIWDTASGTGTQTLEGHGGSV--W----SVAFSPDRER----VASGSDDKT 406
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1133 11:
1175 12:
1217 12:
1356 AA,
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149765 MW, 965FB219844E0651 CPC64:
                                                                                          --STATCLSFDYTNAYINTNIGRIQIATATMESLNQLSSP 1298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 70; Mismatches 246, Indels 220;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WD 8.
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4 09, Secret 127, EP 1, Length 1676,
Heart 1 it %1/11 it; 19 9%, Fred No 0 61,
Matches 154; Conservative 92; Mismatches 277; Indels 252; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bacteria: Proteobacteria; alpha subdivision; Rickettsiales;
Rickettsiaceae; Rickettsicae; Rickettsia.
NCBL_TaxID-35790;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     this SWISS-PRYT ontry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (see http://www.isbasib.oh/numeuros/
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Suppunion.":
Suppunion. "GMAY 1997; Inc. the IMPLETERIAL TYPE databases.
-1: EUNCITION: THE 120 KDA SURFACE EXPOSED PROTEIN IS A MAJOR SIRUCIUMAL PROTEIN WHICH MAY PLAY A ROLE AS A RICKETSIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NIVWORL
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Antiqen: S-layer; Cell wall.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  or send an email to license isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NI VH.
                            6.56 CEAHNIYLITKITNAAGGGKITENPVVNNNTTLAAGTNLOSAANPLAETNEGSKGARADT 71.5
                                                                                                                                                    618 LOARWITLISTNIGSSKTTLNGGNVAINELVICH -
                                                                                                                                                                                                            2/35 FEKN ---GEVYSESSKTWTSLENAKVNOMITALKOOLYKSINHAWI FOWKKOSVFQAOD 350
                                                                                                                                                                                                                                                                     SED MODIFICIANGULIKLISIQNNIVVDCDLAIATEQIDVVDASSLINAQILIISGII GI 617
                                                                                                                                                                                                                                                                                                                                                                                                                                                      204 TECHERSTOLVENETVIVERHEMPORGLEMOCHOCIV- VTGGNDAKKISL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  458 TTATEASGVGVVVQLSGTHTAELFLGNAGSSVFKLADGTVINGKVNQTVLVGGVLAAGAITL 517
                                                                                     REL SILMNWYTYTETTTVKSNGK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       15) YIZAY POLI EWOTTIBLETVEAAAAIEFTSOEVIMWSSYENDAFOO SEGOITL 203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   199 IIDEGNLAAQVEVPDIMILIGNETGDANNPGNTAGVITEA-ANGTLASASADANVAVTNN 457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             *15_AGPANAVIGINNGAGEAAGEVVSVDNGKAA----TIL@-----------QV-350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             55 YTILMKITONVNGLSMLPRQIGNQNGWIG RHEVYLSSEGT------NWG 97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2 SAPICSAISKNNWA------VTCDSAQSCNECNKAITCNKTTEWHTFYGANGDPKDPHT 54
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FUNCTION: THE 32 KDA BETA PEPTIDE MAY SERVE AS A MEMBRANE ANCHOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SIMILARITY)
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                                                                                                                                                                                                                                                                                                                                                                                             SP----VASGSWEADSTIKYSNE---ETRPARYVKLVAITEANGQPWTSIAEINVEQASS 150
                                                                                                                                                                                                                                                                                                                              ------YDSSSDSWIPGPDMQVA---RGYQSSATMSDGRVFTIGGSWSGGV 294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S-layer:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           120 KDA SURFACE-EXPOSED PROTEIN 32 KDA BETA FIFTICE. POLY-GLY.
                                                                                     POSNEGVAPDAMOGNAV------MYDAVEGE 395
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ID AIDA_ECOLI
Ouery Match 4.0%; Score 136; Best Lecal Similarity 21.2%; Prod No C Matches 115, Conservative 64; Mismatch
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        203155;
                                                                                                                                                                                                                                                                        the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as for content is in no way reddited and this statement is not proved. Tago by and for commercial contract requires a library approved. (For help [www.istosite declarations) or send an email to licensedisb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STPAIN-2787 (0126-H27);
MEDITNE-02326638; PubMod-1625582;
Benz I., Schmidt M.A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-JUN-1994 (Rel. 29, Created)
01-JUN-1994 (Rel. 29, Last sequence update)
01-JUN-1994 (Rel. 29, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                 This SWISS\text{-}PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics, and the EMBL outstation \gamma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "AIDA-I, the adhesin involved in diffuse adherence of the diarrhocagemic Escherichia coli strain 2787 (0126:H27), is synthesized via a precursor molecule."; Mal Microbiol 6:1539-1546(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADHESIN ALDA-I PRECURSOR.
                                                                                                           SEQUENCE
                                                                                                                                                                     SIGNAL
                                                                                                                                                                                                              EMPL: X65022; CAA46156 1; -. PIR; S28634; S28634.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.,
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                                                                                                                                                   CHAIN
                                                                                                                                                                                           Cell adhesion;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -1- FUNCTION: THIS IS AN ADHESION PROTEIN NECESSARY FOR THE DIFFUSE ADHERENCE OF DIARRHEA-CAUSING ENTEROPATHOSENIC ESCHEMICHIA COLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          928
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           827 KOAVP--VNALKQITVSGPGNVVVNEIGNAGNYHGAMTDTIAFENSSLGAVLFLPSGIPF 884
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                                                                                                                                                                                                                                                                                                                                                                                                                                               SUBCRILUIAR LOCATION: OUTER MEMBRANE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IO EPITHELIAL CELLS.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NEUGN -LATERKITETSTOSVKVOGEITISTDSSISKASLIEYGIAIHIVNTDGERIF 591
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                                                                                                           1286 AA; 132271 MW; P2A00F72AC05FB34 CRC64;
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                                                                                                                                                                                             Signal; Outer membrane; Plasmid
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                                                                                                                               1286
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                                                                                                                                                     ADHESIN AIDA-I.
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210 STGIVSDETVIVIKHDMECPGISMDGNIGLIVVTGGNDAKKISLYDSSSDSWIPGPDMQVA 269

64; Mismatches

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE 96019249: PhbMod 7593276;
Way M., Sanders M., Chaiel M., Tu V. H., Knight A., Matsudaira P.;
"Heta-scruin, a homologue of the actin crosslinking protein scruin,
is localized to the acrossmal vesicle of Limitus sperm ";
J. Cell Sci. 108:3155-3162(1995).
J. Cell Sci. 108:3155-3162(1995).
AT THE ANIENTAR OF SPERM BUT NOT IN THE ACROSSMAL PROCESS.
TISSUE SPECIFICITY: SPERM.
EMBL: 247541; CAA87589.1;
                                                               entitles requires a license aureement (See http://www.isb-sib.ch/announce/
or send an email to license lisb-sib ch).
                                                                                                                                                                                                                between the Swiss Institute of Bioinformatics and the EMBL outstation the EUropean Bioinformatics in State are in restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Heapen by and for examerable
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_faxID=6850:
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Enhargeta, Metazea, Acthospela, Chellerata, Merestanata, Niphesara
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BETA-SCRUIN.
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01-NOV-1997 (Rel. 35, Frat seguence update)
20-AUG-2001 (Rel. 40, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                      This SWISS-PROT entry is copyright. It is produced through a collaboration
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Limulidae: Limulus.
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283338B

15-JUD-1999 (Fel. 38, Created) 15-JUD-1999 (Fel. 38, Last sequence update) 20-AUG-2001 (Fel. 40, Last annotation update)

TIP ELONGATION ABERRANT PROTEIN 1 (CELL POLARITY PROTEIN TEA1). LEA1 GR SPCC1223.06.

TEA1\_SCHPO

TEA1\_SCHPO P87061;

STANDARD,

PRT,

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Best Toral Similarity 20.0
Matches 115; Conservative
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Pfam; PF01344; Kelch; 11.
PFINTS, PF20501, KEICHPEPFAT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        468 SGPIRTYITGYRPKAPGDDD------LSKD----FAPVTIPFWPPDPDTSDSVFHT- 513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   408 SEKTOKOLKOKOOSDIHAENKAAETIQLNYEKYHASKOEESGIEEDALEKKINVGESORV 467
846 ESCLYLIG----GINSHELSAINRNELYTTDSDT 875
                                                                   449 THISTFYTHIC PRECIPEEDSTPVFTPETYVPEONT 482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             609 QYHP----LKDRWE------FFGFMSLPRNHHAAAYYRGAIYVTGGCD 646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 195 GGSPGGITLTSSWDPSTGIVSDRTVTVTKHDMFCPGISMDGN-------GQIVVTGGND 246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        552 QHSKKVLGLENVESTEYYMSPFHATGDIQDTSIPVIIAIGGVDPQDP---MNVSYGESVF 608
                                                                                                                                           795 IWLCGGAAPSODE----NNYLVSI--PAID---VYDNEALEWIQKATLSCPRHSSVVVAL 845
                                                                                                                                                                                                                                                                                      748 --- TSTKGG----- NINPPVLDDVICYDPVFKHWVSGKPLRIARAFGSAVVCD--- DK
                                                                                                                                                                                                                                                                                                                                                                                                                                      706 SASVESYVPALDEWN-----QEKPM-PLPRMGMAVVSHGGYL--WVMGGV------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             547 PHIRCWGEMVATKMTFVYRLSSNKWTRVADMHSARSHHSMVVFNDS-IYVIGGRDDSGRL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            160 -----RWGPTID-----LPIVPAAAAIEPTSGRVLMWSSYRNDAF 194
                                                                                                                                                                                                                                                                                                                                                                  REPART SERVICE SERVICE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          296 EKNGEVYSESKTWTSLENAKVNEMLIADKQGLYRSENHAWLEGWKKGSVEQAGESTAMN 355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 247 -----AKKTSLYDSSSDSWIPGPDMQVARGYQSSAIMSDGRVFIIGGSWSGGVF 295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       10 SKNNWAVTCDSAQSG----NECNKAIDANKDTEWHTFYGANGDEKEEHTYTIDMKTTQNV 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            66 NG-----LSMLPRODGNONGWIGRHEVYLSSDGTNWGSPVASGSWFADSTIKYSNFETR 119
                                                                                                                                                                                                               ILTEGGSPDYQDSDATTNAHITTLGEPGTSPNTVFASNGLYFARTE-----HTSVVLP- 448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ------VVDQFHCAKEKMQFKHFYTIPRQIDPNLGMLLFMDEDY 551
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20.0%; Pred No. 0.36;
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KFLCH 11.
KELCH 12.
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KELCH 5.
KELCH 6.
KELCH 7
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KELCH 2.
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                                                                                                                                                                                                                                                                       Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "real and the microtabular cytoskeleton are important for denotating an roll spatial order within the fission yeast coll.":
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Schizosaccharomyces.
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                                                                                                                                                                                                                                                                                                                                   SEQUENCE
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                                                                                                                                                                                                                          145 VEQASSYTAFQÉGIGIEWGPTTIFLPIVPAAAATEFTSGFVFMWSSYRNDAFGGSPGGI-TL 203
         340 DESPESSIFILSOSGLELVLIGGKQGKGASDSNVYMLDTSRFRLGSVPTTSGRQRNTSFFS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SUBSTELLULAR LOCATION: PRESENT AT BOTH POLES OF THE CELL THOUGHOUT THE CELL CYCLE WHETHER THEY ARE GROWING TOR NOT. LOCATED AT THE EMOSS OF MICROTUBLIES CANWING THE CELL POLES. AN INTACT MICROTUBLIES SELECTOR IS REQUIRED TO MAINFAIN THE LOCATION AT THE CELL LIDS: ON THE OTHER HAND, A RORMALLY ORCANICED ACTIN CYPSKELETON IS NOT REQUIRED.
                                                                        WSKVETFGVAPNPRAGHAASVVEGII YVFGGRASDGTFLNDLYAFRLSSKHWYKLSDLPF
                                                                                                  WIPGPDMQVARGYOS -- SATMSDGRVFTIGGSWSGGVFEKNGEVYSPSSKTWTSLPNAKV 317
                                                                                                                                  DSEWELAS-VVNFEPEARAGH · · · · · VAFTESDKLYIFGGTDGANFFNDLWCYHFKQSA 279
                                                                                                                                                               LESWIPESTGIVSDELVTVTKHDMFCHGISMDGNGQIVVTGGNDA ---KKTSLYDSSSDS 259
                                                                                                                                                                                               VWOKANASGARPS GAYOHIISS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PF01344; Kelch; 5
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303
351
                                      ---MITADKQGLYRSDNHAWLFG---WKKGSVFQAGPSTAMNWYYT 359
                                                                                                                                                                                                                                                                       3.9%; score 132; DF 1; Length 1147; 19.7%; Pred. No. 0.79;
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                                                                                                                                                                                                                                                                                                                                    127436 MW.
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COILED COIL (FOTENTIAL).
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       YDBA_ECOLI
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MIDLINE-97251357; PubMed-9097039;
Ajba H., Baba T., Fujita K., Hayashi K., Inada T., Isono K., Ifoh T.,
Kasai H., Kashimoto K., Kimura S., Kitakawa M., Kitagawa M.,
Kasai H., Kashimoto K., Kimura S., Mori H., Mori T., Motomura K.,
Makimo K., Miki T., Micohuchi K., Mori H., Nishio Y., Oshima T., Saito N.,
Nakade S., Nakamura Y., Nashimoto H., Nishio Y., Oshima T., Saito N.,
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Nakade S., Nakamura Y., Nashimoto H., Nishio Y., Oshima T., Saito N.,
Nakade S., Nakamura Y., Nashimoto H., Nishio Y., Oshima T., Saito N.,
Nakade S., Nakamura Y., Nashimoto H., Nishio Y., Oshima T., Saito N.,
Nakade S., Nakamura Y., Nashimoto H., Nishio Y., Oshima T., Saito N.,
Nakade S., Nakamura Y., Nashimoto H., Nishio Y., Oshima T., Saito N.,
Nakade S., Nakamura Y., Nashimoto H., Nishimoto H., Ni
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20-AUG-2001 (Rel. 40, Last sequence update)
20-AUG-2001 (Rel. 40, Last annotation update)
97F97HFF1CAL 205.9 KDA PPOTEIN IN PAAY ACPD INTERGENIC REGION
YDBA OR B1401/B1405.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mau B., Shao Y.;
"The complete genome sequence of Escherichia coli K-12.";
Science 277:1453-1474(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Blattber F.R., Plunkett G. III, Bloch C.A., Perna N.T., Burland V., Riley M., Collado-Vides J., Glasner J.D., Hode C K., Mayhew G.F., Gregor J., Dayis N.W., Kirkpatrick H.A., Goeden M.A., Rose D.J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STRAIN=K12 / MG1655;
MEDLINE-97426617; PubMed=9278503;
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                                                                                                      BIOCHIMIC 73:1361-1374(1991).

-!- SIMILARITY: TO S.YYPHIMORIUM ORF NEAR CYSC (AC P25928).

-!- CAUTION: THIS IS A CONCEPTUAL TRANSLATION: THE GENE CODING

-!- THIS PROTEIN IS INTERRUPTED BY A HYBRID IS2D/IS30C ELEMENT

BETWEEN AMINO ACIDS 839 AND 840.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
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This {\rm SWISS\text{-}PROT} entry is copyright. It is produced through a collaboration between the {\rm SWISS\text{-}Institute} of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                      Escherichia coli K-12 "
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## SUMMARIES

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N-MAY-2000 (TrEMBLTel. 13, Last sequence update)
N-10N-2001 (TrEMBLTel. 17, Last annotation updat
                                                                                                                                                                                                                                                                                                                                                                    the 8 Mb Streptomyses coelicolor A3(2) chromosome "; Mol. Migrobiol. 21:77-96(1996).
EMBL: ALIBUSB: CAB65567.1: -.
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Thomson N.R., Furkhill J., Barrell B.G., Rajandream M.A.:
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"A set of ordered cosmids and a detailed denetic and physical map for
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    375
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176 TERTSGRALMMSSYRNDAFGGSRGGITGTSSWDRSTGIASDRTVTVTKHDMERGISMDG 235
                                                                                                126 LVALIDANGOPWISIAEINVFOASSYLAPÖP----GLGKWGPIIDLP-----IVPAAAA 175
                                                 20 VVALAGMNG-FW--LYRESTEKYHQYKINQPEYKAANGKW-EIIEFPEKYRQNTIHAALL 75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MSVAKKOHNITELPDGKVLVIGGSKLEGENNAEGAVLF-FEVMDPELNVMKNLASNNAYK 373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IKPGIPFSVGIPSGAQLKKVTLISLAIETHAFDSSQRFLTVPHALTE-----GYRDRAE 474
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SNVAAPPGFYMLFI.ISKEGV 494
                                                                                                                                                          Similarity 21.2
15: Conservative
                                                                                                                                                                                                                                                                                                                                              IPR001798; Kelch.
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                                                                                                                                                                                9.9%; score 337.5; DB 2; 21.2%; Pred, No. 2.3e-15;
                                                                                                                                                          81; Mismatches 226, Indels 233, Caps
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                                        613 ALPGYWMLFVMNSAGVPSVASTIRV 637
                                                                                  561 APOCSOTETSFAASTVKKVRLIRPSASTHVTDVDQRSIALDETAD-GDKL1V1VPTGKNL 619
                                                                                                                                                                                                                    501 LLEDGK-VENGGGGLOGD---CITNEED AQUELENYLYNSDGNLATRPKITRISIQSV 554
                                                                                                                                                                                                                                                                 450 OASTLPDDSVLVSGGSEDYRG-- RGDSWILQAKLYHDDTMEFBQVADPLVCRNYHSGSI 506
                                                                                                                                                                                                                                                                                                         443 TSVVLPDGSTFITGGOR--RGIPFEDSTPVFTPEIYVPEQDTFYKONPNSIVRVYHSISL 500
                                                                                                                                                                                                                                                                                                                                                        390 LETANTVLLDPAQDEKYMVICCSCVCESKISSEKTPIADLKADAPKFVDGPSLEKGTRYP 449
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STAMNWYYTSGSGDVKSAGKRQSNRGVAPDAMCGNAVMYDAVKGKILTFGGSPDYQDSDA 410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VLVPKAEKVEDPAJGAFVKNDEGLGETYVEAÇKSGSAYETGTEDNYKIQGLSGAPARNTY 248
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NGQIVVTGG----
                                                                                                                        KVCGKITIST - DSSISKASLIEVGTAIHTVNTDGRRIPITITNRAGNGYSFQVPSDSCV 612
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                                                                                                                                                                          LLPDGRLMFFGSDSLYADKANIKPGKFEURILIYIFFYLYRD....SRPDLS-GGPQFI 560
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Q9FYG4
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01-MAK-2001 (TrEMBLEC: 15, Created)
01-MAK-2001 (TrEMBLEC: 16, Last sequence update)
01-MAK-2001 (TrEMBLEC: 16, Last annotation update)
                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.

Johnson-Hopson C., Brooks S., Buebler E., Chao U., Khan S., Kim C.,

Johnson-Hopson C., Bei Q., Chin C., Chiou J., Choi E., Conn L.,

Shinn P., Altaif H., Bei Q., Chin C., Chiou J., Choi E., Conn L.,

Shinn P., Glat A., Hansen N., Howing R., Koo T., Lam B., Lee J.,

Lenz C., Li J., Liu A., Liu K., Liu S., Mukharsky R., Bayen M.,

Palm C., Pham P., Sakano H., Schwartz J., Southwick A., Thaveri A.,

Toriumi M., Vaysberg M., Yu G., Federspiel N.A., Theologis A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Viridipiantae, Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosid eurosids II; Brassicales; Brassicaceae; Arabidopsis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Arabidopsis thaliana (Mouse-ear cress).
Submitted (MAY-1997) to the EMBi-/in-Bank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID=3702;
                                        Ecker J.R.
                                                                                SEQUENCE FROM N.A.
                                                                                                                                                 Submitted (MAY-1997) to the EMBL/Genbank/DDBJ databases
                                                                                                                                                                                                                                                                          Ecker J.R.:
                                                                                                                                                                                                                              *Genomic sequence for Arabidopsis thallana HAC FIN21 from elifollosome
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01-00F-2000 (TrEMBLIE). 15, Created)
01-00T-2000 (TrEMBLIE) 15, last septence update)
                                                                                                                                                     Q9LR03
                                                                                              _9LR03;
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SEQUENCE FROM N.A
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EMBL: ACOC6434, AAF87115.1, -
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SEQUENCE FROM N.A.

Chenk R., Shinn P., Brooks S., Buehler E., Chao Q., Johnson-Hopson C.,

Khan S., Kim C., Altafi H., Hei R., Chin C., Chiou J., Choi E.,

Chen L., Chaway A., Ghoraice A., Hinsen N., Hawing B., Koo T., Lam B.,

Chan L., Chaway A., Ghoraice A., Hinsen N., Hawing B., Koo T., Lam B.,

Nanger M., Palm C., Pham P., Sakaro H., Schwartz G., Southwick A.,

Thaveri A., Joriumi M., Vayshery M., Yu G., Davis B., Federspiel N.,

Theologis A., Ecker J.:
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Eukaryota: Viridiplantae: Strendipolar Embryophyta: Tracherphyta:
Speanatophyta: Mayardiophyta: eudicotyledons; core eudicots, Rosidae,
eurosids II; Brassicales; Brassicaceae; Arabidopsis.
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[2]
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VEVRTPSSAILAPPGYYMVFVVNQ-DIFSEGLWVRL 546
                                                                                                                                                                                       TVNYGRVLELRE LVSGRVKSPVKVTMLEPSETTHSESMHORLI VLDHVTSEKLGTSKTYE
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EMBL ACOUTTY, AAG12543.1;

SEQUENCE 504 AA) 50119 EM; 2009069953410113 CRO54;
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Q%FXIH;
%1-MAR-2001 (TrEMBLre).
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Bukuryeta: Viridiplantae, Streptophyta, Enkryophyta, Tracheophyta;
Spermadophyta, Mainollophyta, eddicotyledoni, core eudicots, Bosidac,
eurosid: II, Praszicales, Fraszicaceae; Arabidopsis.
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01-MAR-2001 (TrEMBLIE). 15, List sequence update)
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         01-MAY-2000 (TrEMBLrel. 13, 01-MAY-2000 (TrEMBLrel. 13,
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                                                                                                                                                   PERLIMINARY;
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Created)
Last sequence update)
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FOR ALABIDAYES SEQUENCIALS POSSIBLE AND STANDAY OF THE EMALASEMENT AND SECURE SEQUENCE 17.1 AA, 1005 MN, EPO145B3F1F06A73 CRC64:

SEQUENCE 17.1 AA, 1005 MN, EPO145B3F1F06A73 CRC64:
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Mayor K.E.X., Lomoko K., Schwoller C., Quetier F., Salanouhat
Submitted (APR-1999) to the EMH,750-Rank/DDBJ databases.
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submitted (AFP 2000) - FOR PMC ATTRACTORPE 13:31:38s EMBL, AL132460; CAB68357.1; Hypothetical profess.

SECURENCE 545 AA: 60004 MW: 14745A770BBB5305 CROS4;
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SEQUENCE FROM N.A.

Casaciberta E. Piladomonoch P. Mewes H.W.,

Lemeke K. Mayer K.F. X. Quetier F. Salanoubat M.,

Zibilited (NEV-1924, ** the EMM Technic TGE) databases
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The Sequence of BAC F14L17 from Arabidopsis Chaliana chromosome 1. Submitted (CCT 1999) by the FMFL/SenFank/PDBJ databases.
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SEQUENCE FROM N.A. Zoldakis I., Vergias C.F., Benriotis V.; Is ubleance U.G.A., Zoldakis I., Vergias C.F., Benriotis V.; "In iffration, characterisation and nucleast de sequence of a novel editoblase from the Antarotic Arthropacter sp. TAR20."; submitted (B-V 1575 to the FMSI/NenBurk/TIBT latabases Edito. Alfoyer, CARCTITE.).
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Syst. Appl. Microbiol. 20:111-123(1997).
EMML US1004: AAM94635.1; -.
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Interfes: Hygos2048: EF-hand.
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InterPro: IPROBUG40; Glyvo_hydro_20.
Plane: PPOU728; Glyvo_hydro_20.
PEUR78: [PROB7:8], GLHYEKLASE20.
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01-UN-1998 (FIEMELTE) 06, Last sequence update)
01-UN-2001 (TremBlre) 17, Last annotation update
GALACITOSE OXIDASE (FRAGMENT).
50-30.
                                                                                                                                                                                                                                                                                                                                                                            Actinomycetales, Microcoscineae, Microscoppae, Arthrobacter
NESI_TaxIV 1667;
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ul-acT-2000 (TERMELTC). 15, Last sequence update)
ul-un-2001 (HERMELTC). 17, Last annotation update)
THITOHIASE PRECUESOR (EC 3.2.1.52).
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                                                                                                                                                                                                                                                                                                                                                                                                               Bacteria, Firmientes; Actimobacteria; Actimobacteridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                     Arthrohacter sp.
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                                                                          1498 - CHILOBIANE.
A: 156619 MW: DR628AAR4US14E7B CRC64;
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Pred. No. 2.se(10)
]; Mismatches 0; Indels
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01-NOV-1998 (TrEMBLrel. 08, Created)
01-NOV-1998 (TrEMBLrel. 08, Last sequence update)
01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
EXPOTHETICAL 145.0 KDA PROTEIN.
                                  the 8 Mt Streptomyces coelicalar A(2) chromosome. Mol. Microbiol. 21-77-96(1996).
EMBL, ALONITSS, CAA20079.1; -.
HSST 001745; IGOF.
Interpro; IPP000421; FA58_C.
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                                                                                                                                                      MEDLINE 97000351: PubMod=8843436:
Redembach M., Kieser H.M., Denapaite D., Eichner A., Cullum J.,
Kimashi H., Hopwood D.A.;
                                                                                                                                                                                                                                                                                            STRAIN-A3(2);
Parkbill J.,
Hypothetical protein. SEQUENCE 1361 AA;
                                                                                                                       "A set of ordered cosmids and a detailed genetic and physical map for the A MG Strentomores coeliosloc AX(2) chromosome.":
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Submitted (JUE 1998) to the EMPL/Submitted (JUE 1998) to the
                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
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Schmitted (HL-1998) to the FMRL/Necknok/DDBJ databases
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Actinomycetales; Streptomycinese; Stre
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144984 MW;
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  54D7FE62CDF66510 CRC64;
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Query Match

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InterPro; IPR001880; Phosphopant_attach.
PKINIS; PR60313; CABNOWNER.
PROSITE: PS00012; PRCSTHSPANTCHHURE, SURREAMEL.
Hypothetical protein; Camplete proteome:
SEQUENCE 2468 AA; 238414 MW; 13556APAR2C18899 CRC64;
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Nature 406:959-964(2000).
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Stover C.K., Pham X.-C.T., Erwit A.L., Miloquchi S.D., Warrener P., Hiskey M. H. Bribbean F.S. Hiskeydie W.S. Fewdik F. H. Lagrou M. Garber R.L. Golfry L. Holostino E., Westbronk-Waddan S., Yuse Y. Bred F. F. Saf A. Lather R.M., Frank F. B. Lain K.M., Smith K.A., Spencer E.H., Wond G.K.-S., Wu Z., Paulsen I.T., Beitzer J., Saiet M.H., Hansock R.E.W., Lory S., O'Bon M.V.;
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01-MAR-2001 (TERMBLiel. 17, Last sequence update)
01-JUN-2001 (TERMBLIE) 17, Last annoration update)
HYPOIHEFICAL PROTEIN PA:874.
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                             EMM.;
                                                                          "Cloning and characterization of cDNA encoding glyoxal oxidase, H202-producing enzyme from the lighth degrading basidiomycete Phanerochaete chrysosporium."; P200 Nath Acad Sci N S A 90:7411-7412(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Enkarjota, Tangi, Basidiomycota, Bymchomycotos; Hymenomycotidae
Aphyliophorales; Corticiaceae; Phanerochaeto.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Phanerochaete chrysosporium.
                                                                                                                                                                                                                                                                                                                                                                                              Kersten P., Culien D.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MESSELLE 03348282, PubMed 8345254;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SECUENCE OF 1.529 FROM N.A.
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    RAN SOLD BANKS OF THE PROPERTY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 D
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Bust Local Similarity 21.6
Matches 132, Conservative
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STRAIN-II-1403;
Rolotic A., Wincker P., Mauger S.,
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                                                                                       SEQUENCE FROM N.A.
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21.8%, Prod No 0.0001;
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EMBL: AE006376; AAK05556.1; -.
InterPro; IPR001899; Gram_pos_anchor.
PR0811E: P800343; GRAM_POS_ANCHOKING; UNKNOWN_1.
Complete proteome.
SEQUENCE 1441 AA: 142946 MW: 4CD4AB0561BA15E
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"The complete genome sequence of the lactic acid bacterium Lactococcus [actis.";
1404 TLPKI----GDDS-------MNSAFAIALGISALLGVMTLTE 1434
                                                                                                                                                                                                                                                                                                                                               1300 TAGGCIALIAGGUANANGAGARABAGAAAA SAGAAAN 1200 TETA TETABAGAGKI 1300
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                                                                                                                                                589 RIFULLINGUNGTOTON STOTONALLONWALLANDA - - OVESVASTIKVIQ 639
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Query Match Best Local Matches 40  Vy 1 ASA  Lob 35 AAP  Lob 35 AAP  Lob 64 KQ1  Lob 154 PAR  Lo	RESULT 1  US-09-257-536-2  SEQUENCE 2 APPLICATION US/99257536  PATENT NO ENVENOUS  GENERAL INFORMATION: APPLICANT: BOLIGHTLY, Elizabeth APPLICANT: BOLY, Michael W. APPLICANT: BOLY, MICHAEL SALION US APPLICANTS APPLICATION NUMBER: US/200/25 APPLICANT PILLUS DATE: 19494 02-24  NUMBER OF SEQ ID NOS: 10  SEQ ID NO 2  LENGTH: 679 TYPE: PRT ORGANISM: FUSARIUM US-09-257-536-2	120 31 31 31 31 31 31 31 31 31 31
Similarity 7. Conserv 7. Conserv 7. Conserv 7. Conserv 1::	-2 Application boyub04 ORMATION: GORMATION: GORMATION: Berka, Randy Pcy, Michael WYENITEN Act ENCE: 5822.00 FLINATION NON FLINATION NOS: 1 FastSEQ for W 79 Fusarium	55 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
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3. Length 679, 46. Indels 10. Gap 46. Indels 10. Gap 46. Indels 10. Gap 47. Indels 10. Gap 48. Indels 10. Ga	lusing Same	Sequence 5, Sequence 6, Sequence 5, Sequence 27, Patrit No. 8, Sequence 2, Sequence 1, Sequence 1, Sequence 2, Sequence 6, Sequence 2, Seq
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Patent No. 5277612
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TILLE OF INVERTION: Octypeptides Having Galactose Oxidaso
TILLE OF INVENTION: Activity And Nucleic Acids Encoding Same
FILE REFERENCE: 5832.200-US
CURKENT ACTLICATION NUMBER: US/09/512.230
CURKENT FILING DATE: 2000-02-24
FRICK APPLICATION NUMBER, 09/257,536
PRICK FILING DATE: 1999-02-24
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ORGANISM: Fusarium
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179 TSCRATMMSSARNDARGUS--BUGITILISSMUBSIGIASUBLAINTARRHUMECBGISMUGN 236
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                                            257 KNOEVYSESSIWISLENAKVNEMLTADROGLYRSENHAWLEGWKKGSVEQAGESTAMNW 356
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                                                                                        GO:VVTGCNDAFKTTIINPNGF-WVPGPDM@IAPGYQSSATTSDGRVFTTGGSWSGPRGG-332
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a. complaint; 53.0%, Fred No. 2e 178;
407; Conservative 83; Mismatches 146, Indels 10; Gaps
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                                                            TELEFAX: (904) 372-5800 INFORMATION FOR SEQ ID NO: 1
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APPLICANT:
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APPLICANT: Patti, Joseph
TITLE OF INVENTION: Cloned Porphyromonas gingivalis Genes
TITLE OF INVENTION: and Probes for the betection of Periodontal Disease
NUMBER OF SEQUENCES: 29
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                                        SEQUENCE CHARACTERISTICS:
                                                                                                                             TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                             FILING DATE: 08-SEP-1988 ATTORNEY/AGENT INFORMATION:
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CLASSIFICATION: 424
PPIOP APPLICATION DATA:
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PRIOR APPLICATION DATA:
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                                                                                                                                               NAME. Whitlock, Ted W. REGISTRATION NUMBER: 36,965 PEFEPFNCE COOCKET NUMBER: HF15 C3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CLASSIFICATION: 424
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STREET: 2421 N.W. 41st Street, Suite A-1
                                                                                                                                                                                                                                                        APPLICATION NUMBER: US 07/241,640
                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: US 07/647,119
                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: US 08/353,485
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                                                                                                         (904) 375-8100
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US-09-213-677-17
: Shippenh 17 Applination (Scorts477)
: Patent No. 6300115
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: MOLECGLE TYPE: protein
US-08-570-311-27
: DRGANISM: Artificial Sequence US-09-313-677-17
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Boot Tipol Similarity 22.1%; Ered. Mo. 0.031;
Matches 124: "Cocommotive of Mismatches inc Totals 200, Oaps
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APPLICANT: Brumm, Phillip J.
APPLICANT: Allen, Larry M.
APPLICANT: Allen, Larry M.
APPLICANT: Hikun, 1907 A.
APPLICANT: Brikun, 1907 A.
IITLE OF INVENTION. Pullulanase Expression Constructs Containing Alpha
IITLE OF INVENTION. Amplace Expression Constructs Sequences
FILE REFERENCE: Pullulanase Constructs
CURRENT APPLICATION NUMBER 52,57,713,677
CURRENT FILING DATE: 1999-05-18
CHARLLER APPLICATION NUMBER 53,722,765
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
                                                                                                                                                                                                                EARLIER FILING DATE: 1998-05-18
NUMBER OF SEC ID MOS: 22
SOFTWARE: Patentin Ver. 2.0
                                                                                     TYPE: PKT
                                                                                                                               LENGIH: 967
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RESULT 5
US-09-346-237-2
(Sequence 2, Application US/09346237A
Fatent No. 6265197
GENERAL INFORMATION:
AFFLICANT: Steendsen, Henrik
APPLICANT: Steendsen, Allan
TILE OF INVENTION: Starch Debranching Enzymes
FILE PFFFPRNYF: 5629-200-418
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CURRENT APPLICATION NUMBER: US/09/346,237A CURPENT FILING PATE: 1990-07-01 EARLIEF APPLICATION NUMBER: PA 1998 UURBB EARLIER FILING PATE: 1998-07-02 EARLIER APPLICATION NUMBER: 60/094,353

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NS ..7-7-1-157A:5
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                                                                                                                                                                                        Sergiènee 5, Application US/07731157A Patent No. 5457032
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                                                                                                                                                          GENERAL INFORMATION:
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                APPLICANT: Quax, Wilhelmus J. APPLICANT: Misset, Onno APPLICANT: Van der Laan, Jan M. APPLICANT: Lenting, Herman B.M.
TROLLINGAL STRILL
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19 4%; Pred No. 0.021;
sative 63; Mismatches 180; Indels 254; Gaps
Mutated beta-lactam acylase genes
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Best Local Similarity 19.0%; Pred. No. 0.022;
Matches 132, Conservative 63; Mismatches 241, Indels 258; Gaps
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INFOPMATION FOR SEQ ID NO: 5
SEQUENCE CHARACTERISTICS:
I FNCTH: 846 amino acids
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COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patenth Release #1.0, Version #1.25 (EPO)
CURRENT APPLICATION DATA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FILING DAIE: 18-APR-1990
AITORNEY/AGENT INFORMATION:
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AFFLICATION NUMBER: PP 00200962
FILING DAIE: 18-APR-1990
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MEDIUM TYPE: Floppy
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                      132
                                                          387 KMLSREETITVKNGQAETITVWRTVHGNILQTDQTTQTAYAKSRAWDGKEVASLLAWTHQ 446
                                                                                                                                                                                                                  271 IVAGEAQGCANGLAGYPTTSNMWVIGKSKAQDAKAIMV
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VOLUME:
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                                                                                                                                                                             85 HEVYLSSDGT------NWGSPVA-----
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DATE: 1986
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HCACYDVTGNTPFAYPGLYFGHNGVISWGSIAGFGDDYDIFAFRLSAEKPGYYLHNGKWV 386
                                                                                                                                                                                                                                                        FWHTFY--GAN---GDPKPPHTYTIDMKTTQNVNGLSMLPRQDGNQNGW-----IGK 84
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APPLICANT: Vuax, Wilhelmus J.
APPLICANT: Missel, Onno
APPLICANT: Van der Laan, Jan M.
AFFLICANT: Lanting, Houman B M
TITLE OF INVENTION: Mutated beta-lactam acylase genes
NUMBER OF EFOIPMCES: 50
                      TELEX: 380816 COOLEY I
                                                                 NAME: RAF-VENTER PH.D., BARBARA REATSTRATION NEMBER 750. TSC FFFFFFFFFFFFF, "FFF YORK INTEGEOMMUNICATION INFORMATION. TELEPHONE: 415-494-7722 TELEPHONE: 415-857-6663
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MEDIUM TYPE: Picppy Hisk
COMFOTER: LIM PC compatible
OPERATING SYSTEM: PC-puckyMS-DOS
SOPTWARF: Patentic Release #1.0, Vorsion #1.25 (EPC)
CORRENT APPLICATION DATA.
                                                                                                                                                                                                                                                                                      CLASSIFICATION: 435
PRIOR APPLICATION DATA.
APPLICATION RUMBLE.
FILING DATE:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                           FILING DAFE: 18-APR-1990
ATTORNEY/AGENT INFORMATION
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CITY: PALO ALIO
STATE: CALIFORNIA
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FILING DATE:
                                                                                                                                                                                                                                                               APPLICATION NUMBER: EF 98288962
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                                             494 VYHSISILIIFDGRVENGGGGLGGGGTTNHPDAQI 527
                                                                                                                                              445 VEPLASSTELLAGS----QREG-----LEEEDST----PVETPELYVPEQGTFYKQNENSIVE 493
                                                                                                                                                                                            692 DKSPIPQAVDLEAGKPQQEVVLAALEDIWEILSK--KYGNNVSNWKTPAMALTFRANNEF 749
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DATE: 1986
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VOLUME: 14
FAGES: 5713 5727
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  ----- IAPDGTV-----
                                                                                              GVEDAAAEEIKHQAEYQUKGIENUMIVESPIISUKPVLAKTVVAPGOSGE----
                                                                                                                                                                                                                                            ----KILTFGGSPDYQDSDATTNAHLITLGEFGTSPNTVFASNGLYFARTFHTS--V 445
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"EJANISM: Bacillus naganoensis
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Parent No. 6400115
GENERAL INFORMATION:
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Rost Local Similarity 20.1%; Score 127.5; 35.4. Length 926;
Matches 147, Conservative 68; Mishatches 241, Indels 277, Gaps
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APPLICANI: Brumm, Phillip J.
APPLICANI: Allen, Larry N.
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NUMBER OF SEC 15 NOS: 22
SOFTWARE: Patentin Ver. 2.0
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                                                     511 SECLECICITINE FDAQI-----FTPNYLYNSD------GN--LATRPKITRTST 551
                                                                                                                 240 SYLPSTHAVYD-TINNPNAD-----LQVDSSGVKTDLVAVTLGENP------DVSHTLSI 287
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---SVNMDAAANHIFATGISDEDKIADEXXXKLDDAGNALNGSGLGNEIAVEKBWAĞKEII 60:
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TITLE OF INVENTION: Amylase Promoter and Leader Sequences
FILE REFERENCE: Pullulanase Constructs
CURRENT APPLICATION NUMBER: US/09/413,677
CURRENT FILING DATE: 1999-05-18
EARLIER FILING DATE: 1998-05-18
EARLIER FILING DATE: 1998-05-18
HENBER OF SEQ ID NOS: 22
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Oudry Match 3.7%; Score 127.5; DB 4; Length 933; Best Local Similarity 20.1%; Pred No. 0.034;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Brumm, Phillip J. APPLICANT: Allen, Larry N. APPLICANT: Brikun, Igor A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOFTWARE: Patentin Ver. 2.0
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                  417 ----TTLGEPGTSPNTVFASNGLYFARTEHTSVVLPDG-STEITGGQFRGIPFEDSTPV 470
                                                                                                                                                                                                                                                                 295 QTEDYQA--GOVIPKKYLDSSOYYYSGODLGNIYIKNÄIIF KVWAP-TSTOVNYL- 346
                                                                                                                                                                                                                                                                                                                  262 PGPDMQVAPQYQSSATMSDGFVFTTTGGSWSGGVFBKNGBVYSFSSKIWISLFHAKVNINL 321
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                                                                   392 TRTA - - - - VDPYA TALAPHOTICOMIVDIANTEPAGWESD - - - - KHITPKNIED 436
                                                                                                                  347 -----LYNS-----ATGAVIKIVPMIASGHGVWEAIVNQDLENWYYMYEVIGOGS 391
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       147; Conservative 68; Mismatches 241; Indels 277;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PDNHNTLLKKVNSNLYQESGNLFEGNYQYKVALNDSWNNrSTFSDNINLTVFAGJAHVTF 246
Gaps
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	.13, Gaps	Longth 35	15.5; DB 2; 0.012; atches 125,	78; Ecore 125.5; [ 78; Prod. No. 0.9]2 28; Mismatches	3.7%; Similarity 21.7%; 88; Conservative	Natoh Cal Simila 88; Co	ouory Match Best Local & Matches 80	
				: 37:	ORMATION FOR SEQ ID NO: EQUENCE CHARACTERISTICS: LENGTH: 353 amino acid TYPE: amino acid TYPE: amino acid fopelogy: linear GLECULE TYPE: protein 647-702-37	HROMMATION FOR SEY, SEQUENCE CHARACTER LENGTH: 353 amino aci TYPE: amino aci TOPPOLOGY: linea MOLECULE TYPE: pr 1-687-702-37	- Oa I	σ.
			3901	120 120 120 120 120 120	NAME: FASSA, J. PELEY R. REFERENCE FOR NAME FOR NAME FOR STATION OF TELEPOMMUNICATION INFORMATION.  TELEPACHE: 617-512-5070 TELEPACH: 617-542-8906 TELEFAC: 200154	NEY, AGEN ME: Fasse OTSTRATION FERENCE, For COMMENT CAN TEPHONE: LEFAX: 61		
				APPLICATION MARKS TACKERS TO SEPTION DATE: 27-JUN-1996 FILING DATE: 27-JUN-1996 CLASSIFICATION: 536 PRIOR APPLICATION DATA: 60/2000 551 APPLICATION NUMBER, 60/2000 551 FILING FATE: 27-JUN 1795	PATION DATA NUMBER 1 27-JUN-1 10N: 536 ION: DATA ION DATA: NUMBER. 6 NUMBER. 6	PRICATION TING DATE: ASSIFICATION R APPLICATION PLICATION LING PATE:	OURK AP OLL PRICE AP	
			e 100 b. 0	Windows Ver	TOS  2110-2804  2110-2804  READABLE PORM: TYPE: DISKOLTE R: IBM COmpati NG SYSTEM: Win	COUNTRY: US COUNTRY: US ZIP: 02110-2864 ACOMPUTER READABLE MEDIUM TYPE: DI O-MEDIUM TYPE: DI O-MEDIUM TYPE: TIM O-MEDIUM TYPE SIFTWARP: F4-15	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
		·	TEIN CRITICAL TION	APPLICANT: FILEZ Christian C. APPLICANT: FILEZ Michael R. TITLE OF INVENTION: MOVEL HUMAN PROTEIN GI TITLE OF INVENTION: MOVEL HUMAN PROTEIN GI TITLE OF SEQUENCES: 37 CORRESPONDENCE ADDRESS: ADDRESSEE: Fish & Richardson, p.C. SIRPET: 225 Franklin Street CITY: Moston	ritor, Chris ritz, Chris ritz, Chris reen, Micha NIION: NOV NIION: FOR JENGES: 3: E ADDRESS: Fish & Ri Fish & Ri 5: Fracklin on	JICANI FILZ, JICANI GICCO, JICANI GICCO JICANI GICCO, JICO	APPLIA APPLIA TITLE TITLE TORKER CORKER ADD SITE SITE	
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APPLICATION NUMBER: US-DEC-1994
CLASSIFICATION: 424
CLASSIFICATION: 424
PRICK APPLICATION DATA:
APPLICATION NUMBER: US-07/647,119
FILING DATE: 25-JAN-1991
CLASSIFICATION: 424
PRICK APPLICATION DATA:
APPLICATION NUMBER: US-07/241,640
APPLICATION NUMBER: US-07/241,640
                                        TELEFAX: (904) 372-5800 INFORMATION FOR SEQ ID NO: 1 SEQUIENCE CHARACTERISTICS:
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APPLICANT: Progulske-Fox, Ann
APPLICANT: Progulske-Fox, Ann
APPLICANT: Lepine, Guylaine
APPLICANT: Lepine, Guylaine
APPLICANT: Lantz, Marilyn
APPLICANT: Lantz, Marilyn
APPLICANT: Patti, Joseph
TITLE OF INVENTION: Cloned Porphyromonas gingivalis Genes
TITLE OF INVENTION: and Probes for the Detection of Periodontal Disease
NUMBER OF SEQUENCES: 29
                                                                                                              REPERENCE/DOCKET NUMBER: OF TELECOMMUNICATION INFORMATION: 1ELECTRONE: (904) 375-8100
                                                                                                                                                                                                         FILING DATE: 08-SEP-1988
ANTORNEY/AGENT INFORMATION:
NAME: Whitlock, Ted W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOFTWARE. PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
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CITY: Gainesville
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                                                                                                                                                                                       REGISTRATION NUMBER.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CLASSIFICATION: 424
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2421 N.W. 41st Street, Suite A-1
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APPLICANI Tumwasoid, Somying
APPLICANI Lepine, duylaine
ARFILICANI Hab, Mainling
ARFILICANI Hab, Mairily
ARFILICANI Lantz, Marilyn
ARFILICANI Lantz, Marilyn
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Fatent No. 5840710
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ITTLE OF INVENTION: Closed Porphyromonas gingivalis Genes ITTLE OF INVERTION: and Folkes for the betection of Periodental Discuse NUMBER of ENGURENCE: 12 CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 3.7%; Score 125.5; DB 2; Length 1732; Bust Lucal Similarity 21.4%, Fied. W., 9.13; Matches 150; Conservative 81; Mismatches 234; Indels 237; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEFAX: (904) 372-5800 INFORMATION FOR SEQ ID NO: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NAME: Whit lock, Ted W. REGISTRATION NUMBER: 36,965 FETTER WT, TOOKET NUMBER: UE TELECOMMUNICATION INFORMATION: TELEPHONE: (904) 375-8100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: US 07/241,640 FILING DATE: 08-SEP-1988 AFTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MOLECULE TYPE: protein
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LENGIH: 1732 amino acids
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CLASSIFICATION: 424
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOFTWARE: Patentin Release #1.0, Version #1.25
CHRRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM
                                                                                                                                                                                                      823 ------VYDYCITNPEPASGKMWIAGINGONQPAR--YINFTFFAGKKYTFTMFRAGMCDG 874
                                                                                                                                                                                                                                                                                                                                                                                                             715 GSREVKRIGDGLEVTIEP-ANDVRANEAKVVLAA---DNVWGDNTGYQFLLDADHNTFGS 770
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               615 QASYSI------QASAGSY-VAISKDGVLYGTGVANASAVATVSMTKQTTFNANYO----68
                                                     TOT STAMBUNYYTERED
                                                                                                                                                                                                                                                                                                         TT1 VIFATSE: FTGTASSHLYSANFEYLVFANANG VVTT -
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120 PARYVELVAITEANGOPWTSTAEINVFOASSY-----TAPOPG------
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: FILTNG PATE: 09-DEC
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STREET: 2421 N.W. 41st Street, Suite A-1
CITY: Gainesville
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               65 VNCLSMLPRQDGNQNGWIGRHEVYLSSDGINWGSPVASGSWFA-----DSTTKYSNFETR 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              14 WAYTCDSAQSGNECNKAIDGNKDTFWHTFYGANGD------PKPPHTYTIDMKTTQN 64
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FILING DATE: 25-JAN CLASSIFICATION: 424
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----YTAGVSPKV9KPVTVEG---SNEFAPVQNLTGSSVGQKVTLKWDAPNG---TP-971
                                                                                                                                                 FERNGEVYSPSSKTWTSL-PNAKVNPMLTA---DKQGLYPSPNHAWLEGWKKGSVFQAGP 350
                                                                                                                                                                                                                                                 DAKKTSLYD-----SSSDSWIPGP-IMQVARGYÇSSAIMSUSE--VETIGGSWSGGV 294
                                                                                                                                                                                                                                                                                                                                                           TOMEVEDDS PASYTYTVYEDGTKIKEGLIATTFEEDGV-AAGNHEYCVEVK
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Shory Match (.7%: Shore 125.5; DB 1: Length 1912; Hest Local Similarity 13.1%: Fred. No. 9.15.
Matches 147: Conservative 937 Mismarches 276; Indels 267; Gaps
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TELEPHONE: (415) 781-1989
TELEFAX: (415) 396-3249
TELEFAX: 910 277-299
INFORMATION FOR SEQ 110 NOT 4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:

APPLICANT: Barburking, Stepher:

APPLICANT: Barburking, Stepher: Barburking, Stepher:

APPLICANT: Barburking, Stepher: Barburking, Stepher:

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                                                                                                                      HARDMAN AND AND THE STATE OF TH
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LENGTH: 1912 amino acids
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AITORREY/AGENT INFORMATION:
NAME: SILVA, HODID M.
REGISIRALION NUMBER: 38,404
REFERENCE/NORTH NUMBER: 58,404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1104 SPKAIRGRIGGIWRGKIVIA PAGIKYVAERRPGKIDMEYIDI 1145
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             49 LSSUGINWGSPVASGSWEA---DSTIKYSNEETRPARYVRLVALTEANGOPWTSIABINV 145
                                                                                                                                                                                                                                                    45 AND------OPKERHIYTIMMKILÇNVNDLS------MLPBZDGNQNCWICRHEVY 88
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STRANDEDNESS: double
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F: Four Embarcadero Center, Sulto (400
San Francisco
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11	1355 LUKKKVALVSUVAKAINDAALE · · · VKVENDESALIDESETEDSANDALKAXEELELKAG [141]
Ç:	2F2EYFSSEDSWIFGFEM@VARGY@SSAIMSDGPVPTIGGSWSGGVFEKNGEVYSPSS 306
а́З	ESVKSMIVSDKLSLGINGNKVNLTSDIKGIN
ro vo	307 KIWVPLAG-349
Db	1467 KTGDDANIHLNGIASILIDILLNSGATTNLGGNGITDNEKKXAASVKDVLNAGW 1520
Qy	YTSGSGDVKSAGKRQSNRG
8	1521 NVSTARANAMAGANIPEANIALANGANAMANANAMANANAMANAMANAMANAMANANAMANAM
γçγ	LIFGGSPUYQDSDATTNAHIITLGEPGTSPNTVFASNGLYFA
Ş	156) KPH-NGKEEF+++ GKELKFANNNGVTVTETFGKEEGHTIVTAKAVITAVNKA 1628
£2	446 - VIEROS:FITOGOREGIPERISTPVETERITYVERECERTYKORFNSIVRVYHS 497
40	1629 GMPVKTTGANGQNDDFATVASGTNVTEALGNGT-TAEVTKANDGSITVKY 1677
Qy	498 ISLILIPIKRRVENGGGGIAGDOTTNHEDAQIETPNYLYNSDKNI ATRRKITRTST- 551
वंद	VKVADSLKLEGDK I VADTIVLTVADSK V LAPNNGXGKKEXDASSLAGCENKLSXTA
Ωy	552QSVKVGGRITISTDSSISKASLIFYGTATHTVNTDQRRIPLTL 594
2	1747 SKEST-SEVI-FANSAGSEVEANTEKVIEKATINLE IKSEXKOFTYSI KKELKOLTSVE 1742
27	545INNGGNSYSFQVPSDSGVALPGYWMI PVMNSAGVPSVASTIRVTO 639
ąq	1743 EKDANGERGESTKITKEMIJTITEANGAGAGAGANTANTISUTK 1835
RESUL:	SSULT 14 3-08-685-467-4 Sequence 4, Application US/08685467
: GF	INFORMATION:
	APPLICANT: St. Geme III, Joseph W. APPLICANT: Barenkamp, Stephen J.
	NVENTION:
	ONDENCE ADDRESS: SSEE: Flehr, Hohbach, Test, Albrit
	EET: Four Embarcadero Center, Suite 3400
	ia ia
٠	ZIP: 9
.,	COMPUTER READABLE FORM: MEDIUM TYPE: Floody disk
. •. •	PUTER: IBM PC compatible
	AFF Patent
~	I AIL NUMPE
	CLASSIFICATION: 424
	UMBER, US
	FILING DATE: 24-MAR-1995 ATTORNEY/AGENT INFORMATION:

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Oberty Match. 3.7%, 3.5cro 125 5, 28 3, Length 1912; Rest Local Similarity 19.1%; Pred. No. 0.15 5.
Matches 177, Consertative 80, Missatches 376 Index 267 5
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FIGUREAX: (415) 498-3249
FIGUREAX: 910 277299
FINE CHARACTERISTICS:
SECTENTE CHARACTERISTICS:
1793 FEDANGCICSESTETIEDGLITTPA--
                                                                                                                                                                                                                                                                             1747 GKEG FGEVERANSAGGEVKAGDKVI FKAGDNIK ----IKQSXKDFILYSLKKELKULTSVE 1792
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    206 SWDESTGIVSDETVIVIKHDMECPGISMDGNGQIVV-----TGGNDAKKTS--------- 251
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SIKANI@DNESS: un
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REGISTRATION NUMBER: A.F.1053-2,7FFT,7FMS
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-NGAGAAGANTANTISVTK 1835
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ILLEFAM: (202) 737-3528
INFORMATION FOR SEQ ID NO: 3:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/JP96/03253
FILING DATE: 07-NOV-1996
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURD: OTHER INFORMATION: /note- xaa at position 428 is GHy or Val.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MOLECULE TYPE: peptide
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ATTOPNEY/AGENT INFORMATION:
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APPLICANT: MORISHITA, Mio
APPLICANT: YAMAMOTO, Katsuhiko
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APPLICATION NUMBER: US
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APPLICANT: KATO, Ikunoshin
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APPLICANT: ASADA, Kiyozo
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231 ISMEGNOOTVYTG - GNDAKKES! YDSSSESWIIDDDDMQVAPGYQSSATMSEGPVETTOF 288
                                                 245 TSMATPHVAGIAALLLQAHPSWTPDKVKTALI--ETADIVKPDEIADIAYCAGRVNAYKA 302
                                                                                              200 GITLT------SSWDP---STGIVSDRTVTVTKHDMFC------PG 230
                                                                                                                                                  192 KYOV SESSE-GETATATIGETAFFAVARISMITTAAKASIS SMIQTI------NLYYTAADO 244
                                                                                                                                                                                                 150 SYTAPOPGLGRWGPTIDLPIVP------AAAAIFPTSGRVLMWSSYENDAFGGSPG 199
                                                                                                                                                                                                                                                     140 SSDGTDALSQAVNAAWDAGLVVVVAAGNSGPNKY-----TIGSPAAASKVITVGAVD 191
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COMPUTER: IBM PC COMPATIBLE
COMPUTER: IBM PC COMPATIBLE
COMPATIBLE
SYSTEM FO FOR SAMS-DOS
SOFTWARE: Patentin Release #1.0, Version #1 30
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STAIR: D.C.
COUNTRY: United States of America
CTF 20204
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RESPERENCE/DOCKET NUMBER: TAKAKURA-1
                                                                                                                                                                                                                                                                                                    90 SSDGINWGSPVASGSWEADSTTKYSNEFIRPARYVPLVATTEANGQPWTSIAEINVFQAS 149
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Similarity 18.9%; Fred. No. 0.023;
89; Conservative 58; Mismatches 151; Indels 172; Gaps
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12-DEC-1995
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405 YQDSDATINAHIIITIGEEGISPN TVFASHGIYFARTEHTSVVLPDGSTEI 454 	3 4 9 0
445 VFDACHSTANNWYVISOSCHVESACEECSNECVAPPAMOCHAVMYDAVKGKILTFGGSPD 404	4 8
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Search completed: January 3, 2002, 10:02:47 Job time: 127 sec

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

Result.	Score	Query Match Lemath (SB		7		The desired by the second
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Amino acid sequenc		P. gingivalis hacb	Enterococcus faeca	Enterococcus faeca	Enterododdus faeda	Arabidopsis thalia	Arabidopsis thalia	Arabidopsis thalia	Neisseria meningit	N. meningitidis am	ω	. elegans AFF	olor Ye	Human host cell pr	ن. ا	V. furnissii extra	dia trac	ລ ຮ	Neisseria meningit	Human protein sequ	protein a	Human secreted pro	predic	Himan MUCll polype	Caenorhabditis ele	Caenorhabditis ele	E. coli proliferat	Human polypoptide	Human protein sequ	F. balustinum CP70	Human immune respo		Human colon cancer

## ALIGNMENTS

AAG63582 RESULT

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AAJESEBL Standard, Protest, 680 AA

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Wil, 2001-483235/52.
N-PSDB; AAH74601.
                                                                Rozzeli DJ, Bui P,
                                                                                   (BIOC-) BIOCATALYTICS INC.
                                                                                                     21-JAN-1880; 2000US:0494921.
08-DEC-2800; 2000US:0794237.
                                                                                                                                 31-JAN-2001; 2001WO-US03186
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                                                                                                                                                                        W0200155342-A2.
                                                                                                                                                                                          Hypomyces rosellus.
                                                                                                                                                                                                             Mothionine gamma-lyase; macA gene, free folding chargy, gene shaffling, directed evolution; molecular breeding, galactese exidase.
                                                                                                                                                                                                                                          Amino acid sequence of a galactose oxidase.
                                                                                                                                                                                                                                                                                 AA363582;
                                                                                                                                                                                                                                                            if-cel-1801 (first entry)
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Designing synthetic nucleic acid sequences for improved amplification, expression in host cell, by comparing free energy of folding of a starting polynomiaetide and a modified polynomiaetide having a codon

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replacement
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Claim 6; Page 111-113; 117pp; English.

useful for developing nucleic acid sequences that change expression of the encoded protein in a heterologous bost. The design and preparation of the synthetic genes are used in application of gene shuffling, directed evolution and molecular breeding methods. The method allows expression of genes from various organisms such as mammals, plants, year, fund; and bacteria in proteins organisms such as mammals, plants, year, fund; and bacteria in provaryotic losts, such as Escherichia coliund cokaryotic hosts at commercially viable levels, in particular proteins with low yield such as methicnine gamma-lyase from P. putida. polynucleotide, modifying the polynucleotide by replacing a codon with a different codon to provide a modified polynucleotide, determining free energy of holding per base of the modified polynucleotides, and polynoclestide. The method comprises providing a starting polynocleotide describing the predicted free energy of folding per base of the polyhorch outlide was modified using using the method of the invention. The specification describes a method for designing a synthetic comparing this with that of the original polynucleotide. The method is the present sequence represents a galactose oxidase enzyme. The

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121 ARYVRLVALTEANGOPWISTAETNVFOASSYTAPOPGLGRWGPTIDLPTVPAAAATEPIS 180  $103\ {\rm ttqnvnqlsmlprqdqnqmqwigrhcvylssdqtnwqspvasqswfadsttkysnfetrp\ 162}$  $43\ asapiqsaisrnnwavtcdsaqsqnecnkaldqnkdttwhtfyqanqdpkpphtytidmk\ 102$  Matches 637; Conservative Query Match Best Local Similarity

99.78; 99.78;

Score 8416; DB 22; Length 681; pred. No. 1c 246; ۰.

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681 AA;

1 ASAPIGSATSRNNWAVTCDSAQSGNECNKALDCSKULLWHIFFGANGHÆEFFHIYLIEMK 60

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AAG63583
                                                                                                               the present sequence represents a modified galactese exidase enzyme. The polynucleotide was modified using using the method of the invention. The specification describes a method for designing a synthetic specification describes a method for designing a synthetic polynucleotide. The method comprises providing a starting polynucleotide by replacing a codon with polynucleotide, modifying the polynucleotide by replacing a codon with a different codon to provide a modified polynucleotide, determining free energy of folding per base of the modified polynucleotides, and comparing this with that of the modified polynucleotide. The method is useful for developing nucleic acid sequences that enhance expression of the synthetic genes are used in application of acid and preparation of the synthetic genes are used in application of the synthetic genes are used in application of the modified acids of the modified acids of the synthetic genes are used in application of the synthetic genes are used in application of the modified acids of the modified acids of the modified acids of the synthetic genes are used in application of the synthetic genes are used in application.
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expression of genes from various organisms such as mammals, plants, yeast, fundi and bacteria in prokaryotic hosts, such as Escherichia coli and eukaryotic hosts at commercially viable levels, in particular proteins with low yield such as methionine gamma-lyase from P. putida.
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                                                                                              directed evolution and molecular breeding methods. The method allows
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THE FIRST TWO STATES AND THE STATES 
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63.3%; Pred. No. 3.7e-157;
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26-001-1999;
28-001-1999;
28-001-1999;
28-001-1999;
                the sunflower (Helianthus annuus). The genes encode a neoxanthin cleavage enzyme (NCE), an amino acid permease (AAP) and a glutamic acid rich protein (GKP). The signaling gene is useful for increasing the resistance of a plant to a pathogen such as fungus, virus, bacterium,
                                                                                                                                                               Novel isolated defence-related signalling gene isolated from sunflower encoding neoxanthin cleavage enzyme, amino acid permease or glutamic acid-rich protein useful for increasing resistance of plant to a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pofonce related signilling gene; sunflower, necenthin clearage NCE, amino acid permease, AAP; glutanic acid rich protein; GRP; pathogen resistance; abscisic acid metabolism.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAB72314 standard; Protein; 1749 AA.
nematode of insect (e.g. European corn borer), preferably
                                                                                                                                                                                                                                                                      Bidney DL, Crasta OR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WC200112801-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Glutamic acid rich protein like protein amino acid sequence
                                                                                This invention relates to defence-related signalling genes isolated from
                                                                                                                  Example 1; Page 128-135; 135pp; English.
                                                                                                                                                                                                                                        WFI; 2001-211215/21.
                                                                                                                                                                                                                                                                                                        (CURA-) CURAGEN CORP
                                                                                                                                                                                                                                                                                                                        (PION-) PIONEER HI-BRED INT INC.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             494 AYHSISLILEFIGEVENGGGGLAGFATTN-HEDAQI----ETPNYLYDSNGNLATEPKITF 548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               439 RTFHISVVLPDGSTFITGGQRRGIP--FEDSTPVFTPETYVPEQ---DTFYKQNPNSIVR 493
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TST-QSVKVGGRITISTD------SSISKASLIRYGTATHTVNTDQRRIPLTLTN--NG 598
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Pred No 2.3e-08;
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22-SEP-1999; 23-SEP-1999; 24-SEP-1999; 24-SEP-1999; 29-SEP-1999;

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155486. 155659.

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10-SEP-1999; 13-SEP-1999; 15-SEP-1999; 41-AUG-

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20-AUG-1999; 20-AUG-1999; 20-AUG-1999; 23-AUG-1999; 23-AUG-1966

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9903-014-368 9908-0149175

1 3 - AIJ

18 - AUG -

Schenzinia spp. Phoma spp. or Phomopsis spp. by stably incorporating a construct containing the gene into the genome of the plant. The gene is seen in the plant in the gene is seen to a stimulus such as infection with a pathogen, damage from a pathogen, bystroden peroxid. Dasmoric acid, methyl jasmorato, sailcylic acid, exalle acid or expression of a gene embedding scalle acid oxidase. The dense are also useful for stem-preferred regulation of gene expression in a plant. The genes are useful in agriculture, particularly in the proceeding of crop plants with improved agronomic traits, for modifying abscisic acid (ARA) metabolism and for modifying amino acid transport and content in plants. The present sequence represents a glutamic acid rich profession in southern (GRE)-like protein isomethoms about the protein isomethoms. used in the characterisation of sunflower AAP.

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-17 Y 617
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                                                                                                                                                    558 ISKASLIKYGTATHTVNTDQRRIPITLTNN-------GGNSYSFWVPSDSGVALFG 616
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        especially where the vector directs the expression of a mentralising opinope of C. pneumoniae.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     disease, sarcoidosis, sinusitis, purulent otitis media, erythema nodosum or pharyngitis. The polypeptides encoded by the open reading frames of the C. pneumoniae genome (see AAY4584-Y35879) can be used in immunogenic compositions as vaccines. Vectors containing C. pneumoniae nucleotides sequences can also be used as immunogenic compositions.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAY34584-Y35879 represent the proteins encoded by all the open reading trumps in the complete geneme (see AAX1970) of Chlamydia pneumoniae. C. pneumoniae causes respiratory disease such as pneumonia and bronchitis and is thought to be a contributing factor in heart than the contributing factor in heart.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (GEST ) GENSET.
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21-NOV-1997;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       13-SEP-1999 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Page 1027 1029; Disclosure; 1912pp; English.
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376 GVAPDAMCCNAV-MYDAVKGKILTFGGSPDYLDSDATTNAHIITLGEPOTSPNTVFASNG 434
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                                                                                 therapy and vaccine production. N and P may be used in the prevention, diagnosts and frontment of discusses associated with inappropriate P expression. For example, N and P may be used to freed discusders associated with decreased expression by centifying matarious or deletions in a patient's genome that affect the activity of P by expression in a patient's genome that affect the activity of P by expression in a patient's genome that affect the activity of P by expression of P. Additionally, N may be used to produce the colon cancer-associated Ps. Additionally, N may be used to produce the colon cancer-associated Ps. By inserting the nucleic acids into a host cell and culturing the cell to express the production A and Pression of Colors of Control of the colon cancer. Additional to Additional and AAP7789 represent seminates used to the example to Additional cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                        Cutherassoriated furthern acid molecules (N) and proteins (P), where
the proteins are collectively known as colon cancer antigens. The colon
current antiques have cylostatic activity and can be used in gene
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sussing at time of publication, meaning to sequences are present for
                                  N.B. Mades 666 to 682 and page 7 % of the sequence listing were
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etail for presenting disposing anilys treating our regular cancers -
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Best fucal Similarity 19.1
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                                  11 JAN 2000: 2000JP-0118776.
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(HELLI-) HELLIX KES INST.
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Ishii S. Sudiyama I. Wakamatsu A. Nagai F. Otonki T;
WHY, 2001 (18749/94)
Framer sets for synthesizing polymerlectides, particularly the 5602 full-length cDNAs defined in the specification, and for the detection analysy diagnosis of the abnormality of the proteins encoded by the
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Intillength chass of the abnormality of the proteins encoded by the rull-length cDNAs.

Claim 8: SEQ ID 12047; 2537pp + CD ROM; English.

The present invention describes primer sets for synthesising 5602 full-length cDNAs defined in the specification. Where a primer set comprises. (a) an oligo di primer and an oligonucleotide complementary to the complementary strand of a polymental which comprises one of inconnected the sequences defined in the specification, where the oligonucleotide sequences defined in the specification, where the oligonucleotide comprises at least 15 nucleotides, or (b) a combination of an eligonucleotide comprises as sequence complementary to the

the Sold nucleotide sequences defined in the specification, where the oblivious leotide comprises at least 15 nucleotides, or (b) a combination of an oblivious leotide comprising a sequence complementary to the complementary strand of a polynucleotide comprises a 5' end sequence and an oblivious leotide comprising a sequence complementary to the complementary strand of a polynucleotide which comprises a 5' end sequence complementary to a polynucleotide comprision a sequence complementary to a chivorus leotide which comprises at least 15 nucleotides and the combination of the 5' end sequence, "end sequence," "end sequence, where the difficulty for primer sets can be used in antisense therapy and it the specification. The primer sets can be used in antisense therapy and it remarks the primers are useful for synthesising polynucleotides, arrientarly tall length chans. The primers are also useful for the betterform and/or disquessis of the abnormability of the proteins encoded by the full-length conditions of the abnormability of the full-length chanse casily without any specialized methods. AAB9246 to AAB13628 and AAB1564 to AAB13628 and AAB1564 to AAB13628 and AAB1564 to AAB13628 and AAB1564 to AAB13632 in the present oblivous entities, all of which are used in the exemplification of the present invention.

Se-prenec 600 AA:

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186 WSSYKNDAFGGSFGGIILISSWEPSTGIVSDETVIVTKHDMFGFGISMFGFFJIVVTTGGN 245

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229 hk!ldqnlldqqaeriqsddd----hiqfwqkkp

prenghkg---- 266

88 YLSSDOTNWOSPYASGSWFADSTTKYSNFETRPARYVRLVALTEANGQPWTSIAEI---- 143

Query Match 4.2%; Score 142.5; DB 22; Length 642; Best Local Similarity 19.1%; Pred No. 0.03; Matches 93, Conservative 69, Mismatches 170, Indels 155,

28 NEATH-ONEITEWHTEYCANGOPREPHTYTTOMKTTQNVNGI SMI PEQINTRORIGRHEV 87

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                                                 autoimmune and inflammatory disorders such as AIDS, atheroselerosis, asthma, allergies, Crohn's disease, multiple sclerosis, irritable bowel syndrome, psoriasis, rheumatoid arthritis and intections, and cell
                                                                                                     The present invention provides the protein and coding sequences for ten human immune response molecules (designated IMUN-1 to IMUN-10). The sequences can be used in the diagnosis, treatment and prevention of
                                                                                                                                                                                                                                Novel human immune response molecules (IMUN), useful for diagnosing, treating and preventing disorders associated with abnormal expression of IMUN, e.g. Addison's disease, allergies, anemia, asthma and
                                                                                                                                                                                Disclosure, Page 83-84; 95pp; English.
                                                                                                                                                                                                                    atherosclerosis
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09-SEP-1999; 99US-0153170
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inflammatory disorder; cell proliteration disordor: cancer
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                                proliteration disorders including arteriosciensis, circlesis and cancer
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    Coery Match
    4.1% Shore 141.5: D8 20: Length 699;
    Best Local Similarity 19.7% Fred No. 6.941;
    Matches 144; Conservative 91: Mismatches 235; Indels 259;

                                                                                                                                                                             Flavo invention describes a novel cold active protease, CP70 from Flavobacterium balastinum. The product of the invention is useful in detergent compositions for use is cold temperature wash water. The characterization of the polymocleotide facilitates the production of an alternative relatively large source of cold active protease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CP70; cold active protource determent; cold temperature wash water.
                                                                                                                                                                                                                                                                                               Example 1; Page 18-21; 25pp; English.
                                                                                                                                                                                                                                                                                                                                    Newly isolated NYTO polyhorizotide exhibiting characteristics of Deposit No. FERM BP-6154
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gtaapqnysiiv 608
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Query March 99-7%; Score 3416, DB-1; Length 728; Bost Local Similarity 99.7%; Pr.d. No. 9.5e-208; Matches 637; Conservative 1; Mismatches 1; Indels 0; Gaps

1 ASAPIGSAISRNNWAVTCDSAQSGNECNKAIDGNKDTFWHTFYGANGDPKPPHTYIIDMK 60

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mofA protein precu	cellulose 1,4-beta	hypothetical prote	hypothetical prote	endc-1,4-beta-xyla	glucosyltransieras	hypothetical prote	beta transducin-li	cell polarity prot	probable membrane	hypothetical prote	adhesin AIDA'i pre	hypothetical prote	hypothetical prote	hypothetical prote	xanthomonapepsin (

# ALIGNMENTS

A. Note: parts of this sequence, including the anino end of the mature protein, were RTTAN, N.; Phillips, S.E.V.; Stevens, C., Ogel, Z.B.; McTherson, M.J., Keen, J.N.; Nature 350, 87-90, 1991  A.; Phillips, S.E.V.; Stevens, C., Ogel, Z.B.; McTherson, M.J., Keen, J.N.; Nature 350, 87-90, 1991  A.; Phillips, S.E.V.; Knowles, P.F.  Submitted to the Brookhaven Protein Data Bank, September 1993  A. Reference number: A51740; PDB:1GOF  A.; Contents: annotation; X-ray crystallography, 1.7 angstroms, residues 90-728  R.; Ito, N.; Phillips, S.E.V.; Knowles, P.F.  Sibmitted to the Brookhaven Protein Data Bank, September 1993  A. Reference number: A51741; PDB:1GOF  A.; Contents: annotation; X-ray crystallography, 1.7 angstroms, residues 90-728  R.; Ito, N.; Phillips, S.E.V.; Knowles, P.F.  Sibmitted to the Hrowkhaven Protein Fatallography, 1.9 angstroms, residues 90-728  R.; Ito, N.; Phillips, S.E.V.; Knowles, P.F.  Submitted to the Hrowkhaven Protein Fatallography, 1.9 angstroms, residues 90-728  R.; Ito, N.; Phillips, S.E.V.; Knowles, P.F.  Submitted to the Hrowkhaven Protein Fatallography, 1.9 angstroms, residues 90-728  R.; Ito, N.; Phillips, S.E.V.; Knowles, P.F.  Submitted to the Hrowkhaven Protein Fatallography, 2.2 angstroms, residues 90-728  A.; Reference number: A51741; PDB:1GOH  A.; Contents and Arived Protein Fatallography, 2.2 angstroms, residues 90-728  R.; Ito, N.; Phillips, S.E.V.; Knowles, P.F.  Submitted to the Hrowkhaven Protein Fatallography, 2.2 angstroms, residues 90-728  R.; Ito, N.; Phillips, S.E.V.; Knowles, P.F.  Submitted to the Hrowkhaven Protein Fatallography, 2.2 angstroms, residues 90-728  A.; Reference number: A51742; PDB:1GOH  A.; Contents and A.; Reference number: A51742; PDB:1GOH  A.; Contents and A.; Reference number: A51742; PDB:1GOH  A.; Contents and A.; Reference number: A51741; PDB:1GOH  A.; Contents and A.; Reference number: A51741; PDB:1GOH  A.; Contents and A.; Reference number: A51742; PDB:1GOH  A.; Contents and A.; Reference number: A51742; PDB:1GOH  A.; Contents and A.; Referen	RESULT 1 A38084 A38084 galactose oxidase (EC 1.1.3 9) procursor [validated] - fungus (Cladobotryum dendroides C.Species: Cladobotryum dendroides C.Species: Cladobotryum dendroides C.Accession: A38084 C.Accession: A38084 P.McPherson, M.J.: Ogel, E.B., Stevens, C.) Yadav, K.D.S., Keen, J.M., Knowles, P.F. J. Riol Chem. 267, 8146-8152, 1392 A.Title Galartose wilds: A38084; MUID:92235025 A.Ferrose number: A38084 A.McCession: A38084; MUID:92235025 A.Accession: A38084; MUID:92235025 A.Accession: A38084; MUID:92235025 A.Accession: A38084; MUID:92235025
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Nature 408, 816-820, 2000
A.A. Arbors, B.Datel, J.L. Johnson Mipson, G.: Khan, S.: Khaykin, M.: Kim, G.A. Arbors, B.Datel, J.L. Johnson Mipson, G.: Khan, S.: Khaykin, M.: Kim, G. A. Arbors, B.Datel, J.L. Kowiey, B.: Sakano, H.: Ta, Ta, Tures, T.S. Maiti, R., Matziali, R.: Kim, M.: Kooney, B.: Kowiey, D.: Sakano, H.: Sakano, H.: Sakano, H.: Sakano, H.: Sakano, B.: 
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"is pertamenty: Arabidopsis thaliana hypothetical protein F5820.250
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C:Species: Arabidopsis (haliana (mouse-ear cress)
C:Date: 02-Mar 200] #sequence_revision 92 Mar 2001 #text_chango 31-Mar-2001
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                7.9%; Score 271; DB 2; Length 504;
24.4%; Fred. No. 9.5e-10;
zutive 78; Mismatches 211; Indels 1
                        Indels 104;
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FIRKOKSPMYEVQVPTPPSANIAWPGYYMIPVVNQ-DIPS 496
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                                                                                                                       KPKT I SPELYQSMIKTGTNIKIKESVTGEVI TPAKVTMVITTETTIBSTAMNQRVI VILPKVK. 457
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A.Map position: 3
Cysuperfamily: Arabidopsis thalians hypothetical protein F5K20.250
Cysuperfamily: Arabidopsis thalians hypothetical protein F5K20.250
Cysuperfamily: Arabidopsis evidoreductase
F;168.389,390.485/Minding site: copper (Tyr, Tyr, His, His) #status
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A:Residues: 1-547 <qUE>
A:Residues: 1-547 <qUE>
A:Cruss retorences: FMF1:AL049660: GSPDB:GN00061: ATSP:F15H8.190
A:Experimental source: cultivar Columbia: BAC clone F15R8
C:Genetics: CTFC-100
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submitted to the Protein Sequence Database, April 1996
A;Reforence number: 215794
A;Acrossion: T06758
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70 SNYSLEGGI---CKYDETOTAEKEDGSAHSVLTDVVSKTYRELNV QTDIWGSSGAVLEN 125
                                                                                                                                     18 SMAILSPAQANPELQ---IDEW--FMILDSIGISAMHMOLLHNOMVIMED--RTD-FGI 69
                                                                       S----PGGITLTSSWDPST-----
                                                                           -----GIVSD--RTVTVTKHDMFCPGISMDGN 236
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A:More: F5K20.250
Tysuperiamity: Arabidopsis thallana Lypothetical protein F5K20.250
Tysuperiamity: copper: metal binding: exidereductase
F:116-168/Gross-link: cysteinyltyrosine (Cys Tyr) #status predicted
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Alauthors, N.F.; Hughés, B.; Huizar, L.

Nature 408, 816-820, 2000

Alauthors, Honton, J.L., Jenkins, J.; Fohnson-Hopson, C.; Khan, S.; Khaykin, E.; Kim, C.A.; Li, J.H.; Li, Y.; Lin, X.; Lin, S.X.; Lin, Z.A.; Lirgs, J.S.; Maiti, R.; Marzia Rizzo, M.; Rooney, T.; Rowley, D.; Sakano, H.

Alauthors, Salzberg, S.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M., Sin, H.; Tallo Kel, M., B.; Yu, G.; Fraset, J.M.; Venter, J.M.; Davis, R.W.

A.Title: Sequence and analysis of chromosome 1 of the plant Arabidopsis.

A. Accession: H86278
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A:Fostibuds: 1-564 (STO)
A:Cross (references GR AF005172, NID-97262685) FILE AAF43943.1, GSFFR GN02141
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Best Local Similarity 23.2%; Pred. No. 6.9e-08;
Matches 126, Generivative 79; Mismatches 224, Indels 115; Gaps
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                                                                       267 NYPSTGSS-VILPLFLTGD-INRTKITAEVMVCGGAPPCAFFKAARTIPKIEVAGSRTCG 324
                                                                                                                                        367 SAGKROSNRGVAPDAMOGNAVMYDAVKGKILTFGGSPDYQ-DSDATTNAHIITLGE---- 421
                                                                                                                                                                                                                213 UTRDENEENNLYEELH·····LL.PDGNLETFANRRSTLFDFVNHRTIKEFPGTPGAUKF 266
                                                                                                                                                                                                                                                                                                                                                        153 GSVSCDWIENRAYLSSRPWYSTNOILFDGRFILIVGGRFAFNYEFYFKLPGESVFNLRELA 212
                                                                                                                                                                                                                                                                                                                                                                                                                            254 DSSSDSWIPG-PDMQVARGYQSSAIMSDGRVFTIGG--SWSGGVFEKN-GE-VYSFSSKT 308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 436 ESVPUGVGRYRIGATAPPNIAVSPPHYYMAFAVNU-GVPSIARWIRI 543
                                                                                                                                                                                                                                                                                        309 WTSLPNAKVN--PMLTADKQGLYRSDNHAWLFGWKKGSVFQAGPSTAMNWYYTSGSGDVK 366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    222 ··· ···· TKHDMFCF31SMD4NG2TVVIG- GNDAKKTSLY----- 253
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    535 - TNNGGNSYSEQ--VPSDSGVALPGYWMLEVMNSAGVPSVASTIKV 637
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 433 FAYHSISLGLEDGRVENGGGGLCGDCTTNH----FDAQT-----ETENYLYDSNCNL 540
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    93 CSAHSILYDVASNTFPPLTLPYDTWCSSGSLNASGSLTQTGGGGGAGPTVAVFTFCDGGV 152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         541 ATREKITRTSTQSVKVGGRITISTDSSISKASLIR--YGT---ATHTVNTDQRRIPLTL- 594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             388 EMYHSIANLLEDGRILLAG-----SNEHYFYKINAEFETELRIEAFSFEYLSFDRANL 440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     274 A1@GDFITABILICGGA----@SGAFT-ABAIDAPAHGTCGRIVATAADPVWVTEEMPF 327
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            33 SPLAILIGGEWÜLIQPSVGTSAMHMQLLHNNKVVIFDETOYGESNVSLESQTCQNAIVED 92
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FGTSPNTVFASNGLYFARTFHTSVVLPDGSTFIIGGQRRGIP-FEDSI-PVFTPEIYV 477
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A;Status: preliminary
A:Molecule type: DNA
A:Residues: 1-2468 TST
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Nature 405, 959-964, 2000
A:III be: () implete denome sequence of Pseudomonas deruginosa PAO1, an opportunistic patho
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Krystover, C.K.; Pham, X.O.; Erwin, A.L.; Mizeguchi, S.D.; Warrener, P.; Hickey, M.J.; Br
Adman, S.; Yuan, Y.; Brody, L.L.; Coulter, S.N.; Polger, K.R.; Kas, A.; Larbig, K.; Lim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        hypothetical protein PA1874 (imported) - Pseudomonas aeruginosa (strain PAO1)
Dispectes: Pseudomonas aeruginosa
Cibate: 15-Sep-2888 #sequence_revision 15-Sep-2000 #text_change 31-Dec-2000
                                                                                                                                                                            A:Reference number: A82950; MUID:20437337
A:Accession: A83412
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NyAltormate mames: mouraminidase
Dispecies: Micromyospora viridifacions
Didate: 10-Jun-1993 #sequence_revision 18 Max 1994 #text_change 22:0pt 1999
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A.M.J.E. Angement militaritmi from NEW Benchese (NEWIP:116820)
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N:Molecule type: nucleic acid
N:Residues: 1:147 | SAV
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36.9%; Pred. No. 3.3e-07;
Pitch Of, Misratches [3
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A;Cross=references: GB:AE004613; GB:AE004091; NID:q9947856; FIDN:AAG05263.1; GSPDH:GN
A.Experimental source. Strain PAO1
C;Genetics:
A;Gene: PA1874
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                                                                                                                       579 ATHTVNTDQRRIPLTITNNGGNSYSFQVPSDSGVALPGYWMLFVMNSAGVPSVASITIRV 647
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C.Species. Fhanerschaete shrysksporium
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A,Criss references: EMPL.ALCRITES; NID 61818489, PID 61818605; PIDN-PAACOOT9.1
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                                                195 GGSP----GGITLTSSWDPSTGIVSDPTVTVTKHDMFCPGISMDGNGQIVVTGGNDA--- 247
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                                                                                                      3 SLLAVVSLAAATLAAPAASDAPG-WREDLKPNLSGIVALEAIVVNSSLVVIF----DRAT 57
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DB 2: Length 1441;  Best Local Similarity 22.86; ried. No. 0.0045;  Buttobes 18: Conservative 71: Mismothes 199, Indels 200: Gaps 38:  Cy R7 VYLSSDGINWGSPV-ASGSWPADSITKYS NEETRPARYVRLVAI 129  H	RRESULT 11  BROCKOT  BROCKOT  BROCKOT  C:Species: Lactococcus lactis subsp. lactis  C:Species: Lactococcus lactis subsp. lactis  C:Acression: BB6807  A:Title: The complete genome sequence of the lactic acid bacterium.  A:REBOOST HUMBER: AB6625  A:Reterico: H86807  A:Reterico: H86807  A:Reterico: H86807  A:Reterico: H86807  A:Reterico: H86807  A:Reterico: H86808  A:Reterico: L141 STE: A:Poss reterences: CB:AE005176; NID:q12724450; PIDN:AAK05556.1; GSPDR:GND0146   Qy 624 NSAGVP 629 11   Db 549 MCSCNP 554	Ph 4.6 LRIETIDPPEMERSRALLTMPEKIKEGOKVIVPITIESDLKASKVQVALMDL 488  OV 577 GTALHIVNILVEKLELLINNGG-NGLSUVELSGSVALIGIMMLF VM 623	478 277	DV 4.2 SNGLYFAKIPHTSVVLPDGSTFITGGORBGIPPEDSTPVFTPEIYV 477  BI 1	DV RES NAVMY	UY 31 HAMLEGWERSVEJAGESLAMNWYVISSSSLVEKSAGKEJSNEGVAFD************************************	: 2 2	ON THE STANDARD THE STANDARD S	
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R0; MMTD-21074935; ENTD 11206551
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A; Cross Tefer = CPC. S. GR AD005174, NTD:G12513369; PIDN:AA054838.1; GSPDR-GN00145- (NGP: A); Cross Tefer = CPC. S. GRAPTICS:

A; Experimental source: strain o157:H7, substrain EDL933

C:Generics:
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                                                                                                                                                                                                  Query Match 4.7%; Score 160.5; DB 2; Length 856; Best Local Similarity 20.8%; Pred. No. 0.018; Matches 138; Conservative 75; Mismatches 259; Indels 191; Gaps
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97 ----GSP-----VASGSWEADSTIKYSNEETPPARYVRLVAITEANGQPWISIAEI 143
                                                                                                                                  41 TFYGANGDEKEPHTYTIDMKTTQNVNGLSMLPRQDGNQNGWTGRHEVYLSSD-GTNW--- 96
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A:Moseonto type: DNA
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A:Rosilbos: reformos: RMBL-080846, Pibh.AAC70890.1, GSPDB-GND0028; CESP-K06A9.la
A:Experimental source: strain Bristol N2; clone K06A9
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Allossoription: The sequence of C. elegans cosmid KO6A9.
Alto-terore teamber 221525
Alto-decession: T34434
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Tagrecies: Caenorhabditis elegans
Dilate: 29-801-1999 #sequence_revision 29 Oct 1999 #toxt_change 18 Pet-2000
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                                                                                                                                                                                                                                                                                                                                                       4.7%; Score 160; DB 2; Length 2232; 20.2%; Pred. No. 0.071; Indels 10.000; Pred. Mismatches 371; Indels 10.000; Pred. No. 0.000; Pred. No. 0.0
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                                                                  MEDILINE-91228593; FubMod-2034213;
R.H.- R., Koth- R., Fryg-ntin P., Schauer R.;
"The Sidildase gene from Clostridium septicum: cloning, sequencing, expression in Escherichia coli and identification of conserved sequences in sialidases and other proteins.";
Mod Cons. 25th june 197(1991).
Mod Cons. SIALIDASES HAVE REEN SUGGESTED TO BE PAIHOGENIC FACTORS
                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A. STRAIN=NC 0054714;
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1- CATALYTIC ACTIVITY: HYDROLYSIS OF 2,4-, 2,5- AND 2,8-GLYCOSIDIC
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                                                                                                                                                                                                            FQA-0 STARBATT FOR CARLACTER SMECTARBASE TRADMITIAVE RELIED VISITAY 400
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QU/2834; TEUS
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Shirai M., Hirakawa H., Shibata K., Patechi M., Kishi F., Kimoto M., Takeuchi H., Nishida J., Shibata K., Fujinaya K., Yoneda H., Watsa-Kima F., Janaka F., Firkawa S., Milia k., Makadawa A., Ishii K., Shiba T., Hattori M., Kuhara S., Nikarawa T.: Walleri M., Shiba T., Hattori M., Kuhara S., Nikarawa T.: Wangariske of cuter membrane proto-in genes omp and pup in the whole genome sequences of Chlamydia pneumoniae isolates from Japan and the United States.",
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Read T.D., Brunham R.C., Shen C., Gill S.R., Holdelberg J.F.,
White S., Hickey E.K., Feleisen J., Tlevilack T., Berry K., Bass S.,
Linher K., Weldman J., Khouri H., Crayen B., Howhar C., Radson R.,
Gwinn M., Nelson W., DeBoy R., Kelonay J., Mediatry G., Salaberg S.L.,
Bisen J., Fraser C.M.,
Pisen J., Fraser C.M.,
Poenise sequencias of Chlamydia trackomatis Morn and Chlamydia
Poenise sequencias (Chlamydia trackomatis Morn and Chlamydia)
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20 AUG 2001 (Rel. 40, Created)
20-AUG 2001 (Rel. 40, Last sequence update)
20-AUG-2001 (Rel. 40, Last annotation update)
PROBABLE CUTER MEMBRAME PROTEIN (MF2C TRECONNOS (FSLYM FULL) MEMBRAME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE 20330349; PubMed 10871362;
Shirai M., Hirakawa H., Kimoto M., Tabuchi M., Kishi F., Ouchi K.,
Shiba T., Ishii K., Hattori K., Eshara S., Kakadawa T.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MILITE (9205606, FubMed 1019288);
Kalman S., Mitchell W., Marathe R., Lammel C., Pan J., Hyman R.W.,
"Himper L. Grimwewd T., Tayls R.W., Stephens R.S.;
"Comparative denomes of Chlamydia pneumoniae and C. trachomatis.";
Nat. Senet 21:385-489(1999).
                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE=20298986; PubMed-10839753;
                                                                                                                                                                                                                                                                                                                                                                                                                                                            STRAIN-J138;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Comparison of whole genome sequences of Chlamydia pneumoniae J138 from Japan and CWL029 from USA.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STRAIN-JISE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRAIN-AR39;
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Bacteria; Chlamydiales; Chlamydiaceae; Chlamydo
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THE PROTEINS DURING NUCLEOCYTOPLESMIC TRANSPORT.
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Q02629;
Q1-JUL-1994 (Rel. 26, Created)
Q1-JUL-1993 (Rel. 26, Lust sequence update)
Q1-JUL-1993 (Rel. 26, Lust sequence update)
Q1-OCT-1996 (Rel. 34, Lust annotation update)
NIOCT-1996 (Rel. 36, Lust sequence update)
NIOCT-1996 (Rel. 26, Created)
NIOCT-1996 (Rel. 26, Created)
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DOMAIN 33 571 29 X 6 AA AFFROXIMATE REFEATS OF G.
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EnPary'') rung: Ascamyeeta, Saccharomyeeting; Saccharomyeets,
Saccharomyeetales; Saccharomyeetaceae, Saccharomyces.
NCBI_TaxID=4932;
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or send an email to license@isb-sib.ch).
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WHILL S.F., FORT M., Blobel G.;
"A new family of yeast nuclear pore complex proteins.";
"I cell Biol. 119:705-723(1992).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDILINE 94378724, Euphed 8091863,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
264 N---
                                                                                                                                                                                                                                                                                                                                                                                  152 SAGISSLEGGVSISIIGIFGNIGSSEGIGLNGNGS----NIFGAGNNSQSNIIGSLEGNV 207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C SAUTOSATSHINWAVIOUSAQSGNECHKAIDGHKDTEWHTEYGANGDPKPPHTYTI---- 57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EL: X7578U; CAAS34U6.1; -
EL: Z28U6B; CAAS19U5.1; -
EL: Z48U6B; CAAS19U5.1; -
EL: Z48U6B; CAAS19U5.1; -
EL: Z48U6B; CAAS19U5.1; -
EL: Z48U6B; CAAS34U6.1; -
EL: Z48U6B; CAAS34U6.1; -
EL: X7578U; CAAS34
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                                                                                            NEETRPARYVRLVAITEANGQPWISIAEINVPQASSYTAPQPGLGRWGPTIDLPIVPAAA 174
                                                                                                                                                                                   - WSSAFGTNNOVG-STEGOVSVNTNNAFGNON---VLIGGSSFGSKFVGSGSTFGVSNNTLG-V63
                                                                                                                                                                                                                                                                                -- PMRTIQUVNCLEMETROPERROWESKHEVYLSSEGINWES FVASSSWEADSTIKYS 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          138,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            959 AA; 99988 MW; D3985F9901BBAA51 CRC64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conset Satire
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4.2%, Score 142.5, DB 1, 29.2%; Fred. No. 0.14; and Mismatches 231;
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PRINTS, FR00723, SUBTILISIN.

PROSITE; PS00136; SUBTILASE_ASP; 1.

PROSITE; PS00137; SUBTILASE_HIS; 1.

PROSITE; PS00138; SUBTILASE_SER; 1.

PROSITE; PS00143, GEAM_FOS_ARCHORING, FALSE_NEG.
PROSITE; PS00143, GFAM_FOS_ARCHORING, FALSE_NEG.
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Pfam; PF02225; PA; 1.
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InterPro: IPR003137; PA.
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                      1.
                                                      774 ATKAGSI-TTVPAGKTAQTEFTLSTPKSFB+++++QQQFVFGFTKFKG SDGSKLKLFYM 826
                                                                                                                                 741
                                                                                                                                                                                                                                                                                                                                                598 TARGONIMETQNINGYTNMEGTEMASPFIAOSQAIIFQALHHHNNFFYADVKQLKGTALI 657
                                                                                                                                                                                                                                                                         658 DELKTVEMNTAQPIN------DINYNNVI------VSPRRQGAGLVDVKA 695
                                                                                                                                                                                                                                                                                                                                                                                2 SAFICSALC FUNWAVTCHEAGS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SIMILARITY: BELONGS TO PEPTIDASE FAMILY S8; ALSO KNOWN AS THE
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                                                                                                                                                                                                                                                                                                           PHTYTIDMKTTQNVNGLSMLPRQDENQNGWIGPHFVYISSDGTNWGSPVASGSWFADSIT 111
                                                                                             SMDCNOQ1VVTGGNDA - - KKTSI YDSSSDSWI POPDMQVAROVQSSATMSDGKVFT I G - 287
                                                                                                                                                                AAAATEPTSGRVLMWSSYRNDAFGGSPGGTILTSSWDPSTGTVSDRTVTVIKHDMFCPG1 231
                                                                                                                                                                                                                                     KYSNEETRPARYVELVAITEANGOPWTSTAFINVFQASSYTAPOPGLGRWGPTIDLPIVP 171
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                    CHWEGO: VERENGEVISESSKIWTHIE
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                                                                                                                                                                                                                                                                                                                                                                                                                 4.2%; Score 142.5; DB 1; Length 1902; 18.6%; Pred. No. 0.33; Live 92; Mismatches 284, Indols 253;
                                                                                                                                                                                                      TVVAEWOYS AVELYBETSTEETFEITFTNF
                                                                                                                                                                                                                                                                                                                                                                                                                12
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CHARGE PELAY SYSTEM (BY SIMILARITY).
CHARGE RELAY SYSTEM (BY SIMILARITY).
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                      M HUNAWH
       TAFKŽ TEKSONBA 3J5
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                                                                                                              Pfam: PF00651; BTB; 1
Pfam: PF01344; Kelch:
                                                                                                                                                                                                               EMRL: AC252281; AAC81717.1;
InterPro; IPR000210; BTH_FoZ
InterPro; IPR001798. K-3-h
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Knob M C. Hemos T.E. Beriow K.A.
"The SCAR transcript is an antisense RNA to a brain-specific
transcript encoding a novel actin-binding protein (KLHLI).";
Hum. Mol. Genet. 9:1543-1551(2000).
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Mammalia: Eutheria: Rodentia: Saidro-mathi: Muridae: Murinae: Mus.
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                                             PPINIS;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TISSUE SPECIFICITY: HIGHLY EXPRESSED IN BRAIN. SIMILARITY: CONTAINS 5 KELCH REPEATS.
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20 AUG 2001 (Rel. 40, Created)
20 AUG 2001 (Rel. 40, Last sequence update)
20 AUG 2001 (Rel. 40, Last annotation update)
20 AUG 2001 (Rel. 40, Last annotation update)
XANTHOMONAPEPSIN PRECURSOR (EC 3.4.23.33) (XANTHOMONAS ASPARTIC
                                         Oyema H. Ahe S.-T. Ushiyama S. Takahashi S. Oda K.;
"Identification of catalytic residues of pepstatin-insensitive
"arthoxy: proteinases from productyotes by site directed mutagenesis.";
J. Brol. Chem. 274:27815-27822(1999).
-i- CATALYTIC ACTIVITY: CLEAVAGE OF CASEIN.
                                                                                                                                                                                                                          MEDLINE-97058302; PubMed-
cala K., Ito M., Dehida K
                                                                                                                                                                                                                                                                                                                         PROTEINASE) (CARBOXYL PROTEINASE) (XCP).
Xanthomonas sp. (strain T-22).
Bacteria; Proteobacteria; gamma subdivision; Xanthomonas group:
                                                                                                                            MULADENESTS OF ASE AND OLD FESTILIES, AND ACTIVE SITES MEDILINE=99419069; PubMed=10488127;
                                                                                                                                                                         "Cloning and expression of an isovaleryl pepstatin-insensitive markeryl proteinase gene from Xanthomonas sp. 7-22."; J. Riechem 120:564-572(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   XANS2
   -!- PIM: AUTOCATALYTICALLY PROCESSED
                                                                                                                                                                                                                                                           SEQUENCE FROM N.A., AND CHARACTERIZATION
                                                                                                                                                                                                                                                                                            NCBI_TaxID=136420;
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SIMILARITY: BELONGS TO PEPTIDASE FAMILY S53
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36; Mismatches 126; Indels 84; Gaps
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North Local Similarity 21.0%, Fred. No. 0.15,

Natches 11., Conservative 62, Mismatches 210.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WY:-- YTSGSGDVKSAGKEQSNEGVAPDAMCGNAVMYDAVKSKITTEGGSPDYQDSDAT 411
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                                         Q6F238) Q564X4;
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21.6%, ared. No. 0.15,
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; 21A33C4C683DBC8F CRC64;
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MICCLINE 20277482; PubMod 10819331;
Navase T. Kikuno F., Ishikuwa K.-I., Hirosawa M. Obara O.;
"Prediction of the coding sequences of unidentified bunan genes. XVII.
"Prediction of the coding sequences of unidentified bunan genes. XVII.
The complete sequences of 100 new cDNA clones from brain which code
for large proteins in vitro.";
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20-ADG-2001 (Rel. 40, Last annotation update)
KELCH-LIKE PROFEIN 1.
KIHII OF KIAA1490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and ter commercial entities requires a license alterator (Am hit) (Awa islable Management) or send an email to license also sib.ch).
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Eukaryata, Metamoa: Cherdata: Craniata; Vertebrata: Euteleostomi:
Mammalia: Eutheria: Primates: Catarrhini: Hominidae: Homo.
                                                                                                                                                                                                                                                                                                                   REPEAT
REPEAT
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REPEAT
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Ptam; PF01344; Kelch; 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL; AF252279; AAF81716.1; -.
EMBL; AH040933; BAA96014.1; ALT_INIT.
EMBL; AL873738; CAC16128.1; -.
MIM: 605332; -
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-1- STRUCTURE, MAY PLAY A ROLL IN GESANICING THE ACTIN CYTESKELETON OF THE BRAIN CELES.
-1- STRUCTURE TO THE TOTAL
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InterPro: IPP001798; Kelch.
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-1 TISSUE SPECIFICITY: BIGHLY EXPRESSIVE IN BEAIN.
-1- SIMILARITY: CONTAINS 1 HTB/FOX LOWAIN.
-1- SIMILARITY: CONTAINS 6 KELCH REPEATS.
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F: PS50097; BTI
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                                                                                                                                                                                                                                   82680 MW;
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KELCH 5.
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                                                                                   Overy Match 4.1%; Brist Local Similarity 21.2%, Minchas 116: CursAprarity C
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ज्ञानसम्बद्धाः
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; X65022; CAA46156.1;
PIR; S28644, S28684
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                                                                          8) Scote 139; Db 1; D
8. Fred. No. 0.33;
67 Mismethly F 155;
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15-JUL-1999 (Rel. 38, Created)
15-JUL-1999 (Rel. 48, Last sequence update)
20-AUC-2001 (Rel. 40, Last annotation update)
TIP FIONGATION AREPRANT PROTEIN 1 (CELL POLARITY PROTEIN TEA1)
                                                                                                                     Wedler H., Wambutt R., Lyne M., Rajandream M.A., Barrell B.G.; S.Loutted (SUI-1198) to the ENKL, Schmitted databases. S. Loutted (SUI-1198) to the ENKL, Schmitted ACT AS AN END MARKER, DIRECTING THE GROWTH MACHINERY TO THE CELL POLES. MAY ALSO
                                                                                                                                                                                                                                                                                                                  "teal and the microtubular cytoskeleton are important for generating global spatial order within the fission yeast cell.";
                                                                                                                                                                                                                                                                                                                                                                MEDINE 97 (4408),
Mata J., Nurse P.,
                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
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A SINGLE CENTRAL AXIS.

SUBCELULAR LOCATION: PRESENT AT BOTH POLES OF THE CELL THOUGHOUT LIBE CELL CYCLE WHECHEK THEY ARE GROWING OK NOT LOCATED AT THE ENDS OF MICROTUBULES GROWING TOWARDS THE CELL POLES. AN INTACT
                                                                                                 INFLUENCE MICROTUBULAR ORGANIZATION, AFFECTING THE MAINTENANCE OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EGTATNTLVSD3GYQH1RN3G1ASGT1VNQSGYVNTSSG----------
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EMBL: ALORIS79; CAA20875...
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Piam: PFÖ1344; Kelch; 5.
                                                                                                                                                                                    577 KK 578
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                                                                                                                                                                                                                                                                            588 RR 589
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WSEYETSTVARWARASHAASWESTIYVESSAASMSTELNSTYAEFI SSKEWYKISDLPE RRG
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19.9%; Pred. No. 0 33:
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Q00808;
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15-JUL-1998 (Pel. 36, Last sequence update)
20-AUG-2001 (Rel. 40, Last annotation update)
VECETATIBLE INCOMPATIBILITY PROTFIN HETE-E-1
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PHOSITE: PS50682: WD_FEPFATS_1; 10.
PROSITE: PS50294: WD_FEPEATS_FEGION; 1.
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A grow responsible for vegetative incompatibility in the fungus Podospora anserina encodes a protein with a GTP-binding motif and beta homologous domain.;
Gene 162:135-139(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A. MEDITINE=96009891; PubMod=7557402;
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Sordariales; Lasiosphaeriaceae, Podospora.
NCBI_TaxID-5145;
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Pfam; PF00400; WD40; 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              entities requires a Treemse agreement (See http://www.isb-sib.ch/announce/
or sond an email to Treemse@ish-sib ch)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
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                                                                                                                                                                                                                                                                             802 APIDSMIKKIFKKEEPGWISTISVVEAEWNACTQTLEGHGSSVISVAFSADGQRVASGSD 861
                                                                                                                                                                                                                      49 PKPPHTYTTEMKTTQNVNGLSMLFFGFONGNGWIGBHTVYLSSDGTNWGSPVASGS---- 104
                                                                                                                                                                                                                                                                                                                                     3 APIGSAISR-----NNWAVTCDSAQS-GNECNKAINGNKDTFWHTFYGANG------D 48
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                                                                                                     ---WFADSTTKYSNFETRPARYVRLVAITEANGQPWTSIAE---INVFQASSYTAPQPGL 158
                                                                                                                                                               DK-----TIKIWDTASGTGTQTLEGHGGSV--W----SVAFSPDRER----VASGSDDKT 906
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247 WD 10.
149765 MW; 965FR%19844F0651 CRC64:
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20.5%; Pred No 0.41;
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    This SWISS-PROF entry is copyright It is produced through a collaboration between the Swiss Institute of Bioinformatics and the BMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial
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20-AUD-2001 (Roll 40, Last Armedicton update)
-UTER MEMBRANE PROJETIN BEREITESSER (JUREAN SURFACE-LAYER PROJETN)
(SUPFACE PROJETN AUTOSEN) (CHILL PUBBACE AUTICEN 5) (SCAS) (ROMFB)
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(ROMF B) [CHIATHAS 120 KIM SCHIATE AUTOSE), 32 EDA BETA THEITIDE).
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                                                                                                                                                                                                                                                                             LAYER WITH HEXANDUAL SYMMETRY.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MPB_EICJA
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928 ----GDQNNIVGLGLGSDNGIIVNATTIYAGIGTINNNQGTVTLSGGVPNTPGTV 978
                                                  592 LTLTNNGGNSYSFQVPSDSGV -ALPGYWMLFVMN-----SAGVPSVASTI 635
                                                                                                  885 NDAGNTIPLTIKSTYGNETAEGFSYPSVIVSGYDSVIADGQVI---------
                                                                                                                                                  535 DSNGN----LATRPKITRTSTQSVKVGGFITISTDSSISKASLIRYGTATHIVNTDQRRIP 591
                                                                                                                                                                                                  827 KQAVF: VNALKQITVSGFCNVVVNEIGMAGNYHGAMTDTIAFENSSLGAVLFLPSGIPF 884
                                                                                                                                                                                                                                                                                                     776 LGNATENGNTTIAANSILQISGNYTADFIASADGIGIVEFVNIGPI-----NVILN 826
                                                                                                                                                                                                                                                                                                                                                     439 ---RTFHTSVVLPDGST------FITGGQRRGI-PFEDSTPVFTPEIYVPEQDTFY 484
                                                                                                                                                                                                                                                                                                                                                                                                     716 VLNVGEGVNLYATNITTDANVGSFVFNAGGKNIVSGIVGGQQGNKFNTVALDNGTTVKF 775
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              560 NGGTINFQANGGTIKLTSTQNNIVVDCDLAIATDQTGVVDASSLTNAQTLTISGTI--GI 617
                                                                                                                                                                                                                                                                                                                                                                                                                                                        396 ILIFG-GSPDYQDSDATTNAHITTL-------GEPGTSPNTVFASNGLYFA- 438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        656 QFAHNTYLTTETTNAAGQGKITENPVVNNNTILAAGINLGSAANPLAEINEGSKGARADT 715
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              295 FEKN · ··GEVYSESSKTWTSLENAKVNPMLTADKQGLYKSDNHAWLEGWKKGSVFQAGP 350
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2 SAPIGSAISRNNWA-----VTCDSAQSGNECNKAIDGNKDIFWHIFYGANGDPKPPHI 54
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    YAKDMVI-----QSANANGQVNFKHIVDVGIDGTTAFKTAASIVAIIQNSNFG 398
                                                                                                                                                                                                                                                        KQNFNSIVKAYHSISLLLEDGKVEN···GGGGLCGDCI·····INHEDAQIETPNYL-Y 534
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TSSWDPSTGTVSDPTVTVTKHDMFCPGISMDGNGQIV--VTGGNDAKKTSL----- 252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ITAIEASGYGYVQLSGTHTAELRIGNAGSYFKLADGTYINGKYNQTYLYGGYLAAGAITL 517
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTDFGNLAAQVTVPDTMTLTGNFTGDANNPGNTAGVITFA-ANGTLASASADANVAVTNN 457
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32 KDA BETA PEPTIDE.
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4.0%; Score 135.5; DB 1; Length 916;
hest local Similarity 20.0%; Pred. No. 0.35;
Matches 115, Conservative 62, Migratibles 190, Indels 207, Gaps
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01-WW 1997 (Rel. 35, Created)
61 NOV 1997 (Rel. 35, Last sequence update)
20-ANG-2001 (Rel. 40, Last annotation update)
HETA SCRUIN.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              the European Bioinformatics Institute. The use by non-profit institutions as long modified and this statement is not remembed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Wa, M., Jankers M., Thatel M., Ta Y.H., Elight A., Matsalaria P., "Hera scruin, a homologue of the actin crosslinking protein scruin is localized to the acrosomal vesicle of Limulus sperm."; J. Coll Sci. 108:4155-3162(1995).
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Ptam; PF01344; Keich; II.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        entities réquires a license agraement (See http.//www.or-sets/an-email to licenserisb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MI LIME 95019249; PubMed-7598276;
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                                        198 GREEGELTEL SSWEPSTGIVSDRIVTVTKHDMFGPGISMFGN ----- GQIVVTGGND 246
                                                                                    502 CHSKKVLGLKNVESTPYYMSRFHATGDTQDTSTPVTTATGGVDPQDP---MNVSYGRSVF 608
                                                                                                                                                                                                                   120 FARYVRIVALLEANGOPWISTARINVFOASS
                                                                                                                                                                                                                                                              458 STRIKTYITGYRPKAPGDDD-------ISKD----FAPVTIPFWPPDPUTSDSVFHT- 513
                                                                                                                                                                                                                                                                                                                                             408 SEKULERI PRELIMBER BARNKAARI OLI MYREYHASKI ERSSUERSALLEKKUNVOISTEV 487
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-!- SUBCELLHIAR LOCATION: INTEGRAL MEMBRANE PROTEIN (POTENTIAL).
-!- SIMILARITY: STRONG, TO C FLEGANS F40H6.2.
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Kihashi H., Hopwood b.A.,
"A set of ordered cosmids and a detailed genetic and physical map for
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100 TEPTSOFATIMASSAFMENTORESPECIALISSMORS FOR TAXIBLE AND TRANSPORTED TO THE TERMINAL STREET
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                                                                                                                                                                                                                                                                                                                                                                                                                     Arabidopsis thaliana (Mouse-ear cress).

Fukaryeta, Viridipiantae; Strubuhyeta, Embryophyta, Trachcophyta:
Spermatchyta, Majaedlophyta, endicetyledens, ear e.foets, Rosidae,
eurosids II: Grassicales, Brassicaceae, Arabidopsis.
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Submitted (MAY 1997) to the EMHL/GesEank/DDBJ databases

Ecker J.R. SEQUENCE FROM N.A.

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Submitted (TTM 1987)
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51-00T-2000 (TrEMBLiel, 15, Last sequence update)
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Khan S., Kim C., Altaff H., Rei R., Chin C., Chiou J., Choi E.,
Chan S., Kim C., Altaff H., Rei R., Chin C., Chiou J., Choi E.,
Chan S., Kim C., Altaff H., Rei R., Chin C., Chiou J., Choi E.,
Choi E., Toriway A., Gontalla A., Liu J., Liu S., Mukharsky N.,
Thouris A., Toriumi M., Vaysberg M., Yu G., Davis R., Federspiel N.,
Theologis A., Ecker J.,
Theologis A., Ecker J.,
Submitted (JUL-2000) to the EMBL/GenBank/DDBJ databases.
EMBL, ACO06434; AAR87115.1;
ELIGHENCE S42 AA, EURAN MN; 108F2467244508110 CRC64,
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Eukuryotu, Viridiplantae, Streptophyta, Embryophyta: Trachcophyta;
Spermatophyta: Magnoliophyta; eudleotyledons, core eudleots, Rosidae,
eurosids II, Brassicales; Brassicaceae; Arabidopsis.
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                                                                                                           TVNYGRVLRLRETVSGRVKSDVKVTMLFPSETTHSESMHQRIIVLDHVISEKLGISKIYE 511
                                                                                                                                                            VKVGGR-----TITISTDSSTSKASLIPYGTATHTVNIDQPFIPL--ILINNGGNSYSFQ 605
                                                                                                                                                                                                                    TILEOGRILVGGSNPHAFYNFTGVLFPTFLELEAFSPSYLDTKYSSL--PPSTVDPPPQT 451
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Gonzalez A., Howig B., Ichnson C., Khan S., Kim C., Koo T., Lee J.M., Lonz C., Liu A., Liu S., Mukharsky N., Pham P., Sakano H., Shinn P., Toriumi M., Vaysberg M., Yu G., Ecker J., Theologis A., Davis R.W.; Schmitted (SEP-2000) to the EMBL/GenBank/DDBJ databases. EMGC. AC007797, ACC1264 MJ, 1. -
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E:Raryeta: Viridiplantae: Strepteptyta: Embryephyta: Tracbeophyta:

Primatiphyta: Magoolicptyta: cudiostyledoms, core endicots; Rosidae: curosids 11; Brassicales: Brassicaceae; Arabidopsis.
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SEQUENCE 547 AA; 61025 MW; EF9145B3E1F06A73 CRC64;
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Mayor K.E.X., Lemoke K., Schuoffer C., Quetier P., Salamoubat
Satificial (AFF 1994) **** The FMFT, 13 (San) USBA databases.
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                                                                                                                                                                                                                                                                                                                                                                                                                  561 TISTDSSISK-----ASITRYGTATHTVNTDØRRIPLIL----TNNGGNSYSFQV-- 606
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Similarity 25.0%; Prod No. 9.7e-11;
43; Conservative 101; Mismatches 213; Indels 114; Caps
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Best Local s
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91-JUN-1998 (Tremstred, p6, Last sequence update)
91-JUN-2001 (Tremstred, 17, Last admotation update)
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Hypothetical protein.
SEQUENCE 545 AA; 60004 MW; 14745A770BBB5385 CRC64;
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Lommko K., Mayos K.F.Y., Zurtler D., Saluncabat M.,
Submittel (MEV 1909) to the CHEL/Badeaub, ICBU databases.
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HYPSTHRICAL 69.0 KDA PROTEIN.
ESK20_250.
MCBI_TaxID 5518
                                                               Hypocreales: Nectriaceae: Gibberella
                                                                                                                              Bilkaryota - Buggi - Assommorta
                                                                                                                                                                                                                                                                                            GALACIOSE OXIDASE (FRAGMENT).
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s: Pred. No. 1.3e-10;
66. Mismatches 185; indels 50; Caps
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                                                                                                                Query Match 7 1%; Scorp 242.5; DB Rost Local Similarity 23 2%; Bred, No. 6.96-69
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Best Local Similarity
                                                                                                                                                                                                                        Submitted (MAR-2000) to the EMBL/ConPank/DDRT databases EMBL; AC012188; AAE43943.1; -. SPQUENCE 564 AA; 62764 MW; 108A11434291D12B CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Chin C., Chiou J., Choi E., Chung M., Gonzalez A., Howng B., Liu A., Vaysherq M., Altafi H., Brooks S., Buehler E., Chao Q., Conn L., Vaysherq M., Altafi H., Brooks S., Buehler E., Chao Q., Conn L., Conway A., Hansen N., Johnson-Hopson C., Khan S., Kim C., Lam B., Mitanda M., Byern M., Falm C., Shin: F., Southwick A., Davis R., Ecker J., Federspiel N., Theologis A., Ecker J., Federspiel N., Theologis A., Bendamin C., Shin: F., Southwick A., Davis R., Ecker J., Federspiel N., Theologis A., Branda M., Bendamin C., Shin: F., Southwick A., Davis R., Ecker J., Federspiel N., Theologis A., Branda M., Bra
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Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Trachcophyta;

Speina-to-phyta, Majnolio-phyta; eudico-tyledons, colo endicots, Rosid

eurosids II; Brassicales; Brassicaceae; Arabidopsis.
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01-0CT-2000 (TrDMBLrel. 15, Created)
01-0CT-2000 (TrDMBLrel 15, Last sequence update)
01-0CT-2000 (TrDMBLrel 15, Last annotation update)
                                                                                                                                                                                                                                                                                                                                            STRAIN-CV. COLUMBIA;
                                                                                                                                                                                                                                                                                                                                                                                                                               Submitted (DEC-1999) to the EMBI/GenBank/DDBJ databases
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Syst. Appl. Microbiol. 20:111-123(1997).
FMBL 051694, AMR4665.1.
BSSE, Q01745, IGOF.
Theologis;
                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
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InterPro; IPR000421; FA58_C.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         57 TEMKTTONVNGLSMLPROPGNONGWIGRHEVYLSSEGTNWGSPVA 101
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97.88;
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                                                                                   Mishatches 224;
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6.1%; Score 207.5; DB 2; Length 1498;

Pest Local Similarity 22.7%; Pred. No. 6.96:06;

Matches 1 ., Conscreative 52; Mismatches 147; Indels 151; Gaps
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itum, PT00728, 61yco_bydro_20; 2.
PRINTS: PK00738; GLHYDRLASB20.
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ol-odf-2000 (TrEMBLIEL 15, Last sequence update)
Ol-DHN-2001 (TrEMBLIEL 17, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                            Signal; Hydrolase; Glycosidase, Signal; 1 26 PC
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                   best
Matches 164, Conservative
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                                                                                                                                                             EMBI, AE004613; AAG05263.1; -.
Interpro: IPR001343; Hemlysn_Ca_bind.
Interpro; IPR003880; Phosphopant_attach
PKINTS; PR00333; CABNUNGEPT.
                                                                                                                                                                                                                                                 "Complete geneme sequence of Pseudomonas acrualinosa PAOL, an opportunistic pathogen.";
Nature 406:959-964(2000).
                                                                                                                                                                                                                                                                                                            MEDLINE=20437337; PubMed=10984043;
Stover C.K., Pham X.-Q.T., Erwin A.L., Mizoquchi S.D., Warrener P.,
Hitchey K.J., Britkman F.S., Huffnagle W.O., Kowalik D.T., Iagrou M.
Garber R.L., Goltry L., Tolentino E., Westbrock-Wadman S., Yuan Y.,
Frody L.L., Coulter S.N., Folger K.B., Kas A., Jarbiq K., Lim R.M.,
Smith K.A., Spencer D.H., Wond G.K.-S., Wu Z., Paulson L.T.,
Reiter J., Saler M.H., Hancock P.E.W., Lory S., Ulson M.V.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0912M3:
01-MAR-2001 (TrEMBLrel, 16, Created)
01-MAR-2001 (TrEMBLrel, 16, Last sequence update)
01-JUN-2001 (TrEMBLrel, 17, Last annotation update)
HYPOTHETICAL PROFEIN PA1874.
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                                                                                                       Hypothetical protein; Complete proteome SEQUENCE 2468 AA; 238414 MW; 13596A
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                                                                                                                                            FROSTIE, PS00012, PHOSPHOPANTETHETNE: UNKNOWN_1
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                   Local Similarity
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                                                                                                  Cubry Match 5.3%; Score 180.5; DB 3; Length 559; Host Local Similarity 21.8%; Pred. No. 0.00014; Matches 132; Cobservative 84, Mismatches 221, Indels 169, Caps
                                                                                             Matches 132; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
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Bust Lucal :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VI-N V-1996 (TrEMBErel. 01, Greated)
01-NNV-1996 (TrEMBErel. 01, Last sequence update)
01-NUS 1998 (TrEMBErel. 07, Last annotation update)
GLYÚXAL OXIDASE PPECUPSOR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q01773
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 the 8 Mt Streptomyver coefficies A3(2) chromosome."; Mol. Microbiol. 21:77-96(1996).
.Mt. A.53155. CAAC3079:1; -.
HSSP: 001745; 1GOF.
Interpro, IPRO00421; FA58_C.
Hypothetical protein.
SEQUENCE 1361 AA; 144984 MW; 5407FE62CDF66510 CRC64;
                                                                                                                                                                                                                                                                                                                                                  SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                           CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                               SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Signal.
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Aphyllóphorales; Corticiaceae; Phanerochaete.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Phanerochaete chrysosporium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q01773;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1340 VY------GVPVDLP 1348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1152 PAGTAGTSATWQVTAAYAHEGATRIVSTGAKAAVIDEPVLAPASTTATADSENTSSGASE 1221
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Submitted (JUL-1998) to the EMBL/OccaBank/PDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Submitted (THI-1998) to the EMBL/AenBank/PDBT databases.
[2]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Kersten P., Witek C., Vanden Wymelenenberg A., Cullen D.;
J. Bacteriol. 0:0-0(0).
EMBL; L47287; AAA87595.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID-5306;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STRAIN-A3(2)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "A set of ordered cosmids and a detailed genetic and physical map for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 kedenbach M., Kieser H.M., Denapaite D., Eighner A., Cullum J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                H ...
139 SIAEINVEQASSYTAP----DEGLGEWGETIDLPIVPAAAATEPTSGEVIMWSSYENDAF 194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  145 VEQASSYTAPOPCLGRWGPTIDLP 168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    25 NECNKAIDONKDIEWHIEYGANGDEKEPHTYTIDMKITONVNGLSMIPPODGNONGWIGE 84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4 PIGSALSRNNWAVTCDSAQSG-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       tch 5.8%; Score 197; DH 2; Length 1361;
ai Similarit; _5.5%, fixed, N., 7.2e-05;
54; Conservative 25; Mismatches 69; Indels 5
                                                                                                                                                                                                                                                                                                                                                       1
23
559 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRELIMINARY,
                                                                                                                                                                                                                                                                                                                                                       22 P
559 G
59140 MW;
                                                                                                                                                                                                                                                                                                                                                                                                           GLYOXAL OXIDASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                          POTENTIAL
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                                                                                                                                                                                                                                                                                                                                                                 5145FA1E429B8E68 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bywohowy detect,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                559 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Hymenomy Cetidae;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
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ESULT 14
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Enkarpola, Funai, Basidiomyesta, Hymenomyeetidae;
Aphyloshorales: Corticiaceae; Phanerochaete.
NCNI_laxID 5306;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q01772 PRELIMINARY FRT, 559 KA. (201772; Q01845)
Q1-NOV 1996 (FIEMMIJE). 01, Greated)
Q1-NOV 1996 (FIEMMIJE). 01, Last sequence update)
Q1-NOV-1998 (FIEMMIJE). 08, Last annotation update)
ELYMAN WHEASE (SLXI) PRECURSOR (GLXI).
                                                                                                                                                                 "Chadhat and characterization of STMA conditional yyear and ase, there ye admind characterization the lighth degrading basidiomycete baneschare chrysosporium.":

The Nath Acad. Sci. U.S.A. 90:7411-7412(1993).
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Signal: Peroxidase.
Signal. }
SHAIN 23
                                                                                                  EMBL: 1.47286; AAA87594.1;
EMBL: 118991; AAA33747.1;
                                                                                                                                                                                                                                                                                                                                                                             SECUENTE OF 1-529 FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Kerster P., Witek C., Vanden Wymelenenberg A., Cullen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SECHENTE FROM N.A.
                                                                                                                                                                                                                                                                                                          Kersten P., Gullen D.:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       145 MOSSINE 554
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   262 SAULLFESEPDFIP-EVLYCGGS----TADTSLESTSLSSQHPATSQCSRITLTPEGIKA 316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      *85 NAVMY-----DAVKGKILIFGGSLDYGDSDAFTNAHLLIGEEGTS----- PHTVFA 431
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                                                                                                                                                                                                                                                                                                                                                                                                                                            Bacterial, 0:0.0(0).
                                                                                                                                                                                                                                                                                                                                   LINE 9 844 8282; FubMed 8346261;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GSSP----GGITLISSWDPSTGIVSDRTVTVTKHDMFCPGISMIGNGQIVVTGGNDA--- 247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GUSWSGGVFEKNGEVYSD------SSKTWTSLPNAKVNPMLTADKQGLYRSDN 333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GWQVIHMILARMMFHIVHVPNGQILITNGAGTGFAALSAVADPVGNSNADHPVLTPSLYT 376
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               KKISLYLSESDSWIPOPP------MQVAPGYQSSAIMSDGRVFFI 286
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Best Local :
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                                                                                                                                                                                                                                                      Lactococcus lactis (subsp. lactis) (Streptococcus lactis).
Previoria: Firmioufes: Racillus/Clostridium group: Streptococcuaceae:
                                                                                                                                                                                                                                                                                                                                                             01-JUN-2001 (TrEMBLrel. 17, Created)
01-JUN-2001 (TrEMBLrel 17, Last sequence update)
01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
Genome Pes 0.0-0(2001)
                                                                      Beletin A., Wincker P., Mauger S., Jaillon O., Malarme K.,
Weissenbach J., Ehrlich S.D., Sorokin A.;
                                                                                                                                                                                                                                                                                                                                    UNKNOWN PROTEIN
                     lactis
                             "The complete genome sequence of the lactic acid bacterium Lactococcus [actis.":
                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                                     NCBI_TaxID-1360;
                                                                                                                         STRAIN IL1403;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   115 GDVAAPPGNQAIRIFEPCAS---PSGDGCTLFEDPATVHLLEEKWYPSSVRIFDGSLMII 171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    172 GGS---
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              624 NSAGVP 629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     436 LRIEFLDPPFMFRSRPALLIMP...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          478 PEQDIFYKQNPN-----SIVRAYHSISLLLPDGRVFNGGG------GLCGDCTTNH 522
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                549 MGSGNP 554
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 489 CUSSHAFRSSARLVIMESSISADEKSLIFTAPPNOPVEPPGFAVVELTIDDVTSPGEBVM 548
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           317 GWQVEHMLEARMMPELVHVPNGQILITNGAGIGFAALSAVADPVGNSNADHPVLTPSLYT 376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               262 SAILLIMLSPPDFIP-EVLVCGGS----TADISLPSTSLSSQHPATSQCSRIKLTPEGIKA 316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                385 NAVMY-----DAVKGKILTFGGSPDYQDSDATTNAHIITLGERGTS------PNTVFA 431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                217 ---AFALIDGTVFIVANNQSIIY------DIE----KNIETILPDIPNGVRVTNPIDG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     287 GGSWSGGVFEKNGEVYSP------SSKTWTSLPNAKVNPMLFADKQGLYRSDN 333

→ SLLAVVSLAAATLAAPAASDAPG-WREDLKPNLSGIVALEAIVVNSSLVVIF----DRAT 57

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRELIMINARY;
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No. 0.0012; Matches 146: Conservative II: Mismatches 149: Indels 230; Daps
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                                                                                                                                                                                                          576 YOLADHANDERKIR TILIKMGUKSYSTOVES LOGVALP 615
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181 -----BIFYKQNPNSIVPAYHS: --- ----- SLLLEGGRVFNGGGGL) 515
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HITTE OF INVENTION: Activity And Nucleic Acids Encoding Same
FILE REFERENCE: 5832, 200-US
-URBERT APPLICATION NUMBER: US/69/512, 230
(UDFFENT FILING DATE: 2000-02-24
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                                                                                                                                           Query Match 3.9%; Score 172.5; DB 1; Length 1912; Best Local Similarity 19.2%; Pred. No. 0.041; Matches 14%; Conservation 80, Misenteles 275; Indels 267;
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TELEFONE: (415) 781-1989
TELEFAX: (415) 398-3249
TELEFAX: (415) 398-3249
TELEFAX: (417) 277299
TELEFAX: (417) 277299
TELEFAX: (417) 277299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATTORNEY/AGENT INFORMATION.
NAME: Silva, Bobin M.
REGISTRATION NUMBER: 38,
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APPLICANT: St. Geme 111, Joseph W.
TITLE OF INVENTION: Heamophilus Adhesion Proteins
NUMBER OF SECTENCES: 6
                                                                                                                                                                                                                                                                                                                                        SEQUENCE CHAPACTERISTICS:
LENGTH: 1912 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
                                                           1195 ASMUNTISVTEDGISAGNKEITNVKSALKTYKOTUNTADETQDKEITHAAVKNANEVEEVU 1254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CURRENT APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                57% TITE NONLATERKITAVSAATAKVGSTITVTANGAIKSASLIKVSTATHTVNTDQEKIPL 642
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        533 LYDENGNLATREKITETESTOSYKYGGETTISTDESISKASLIRYGTATHIVNTDORKLIPL 592
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COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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CLASSIFICATION:
                   45 ANG-----PPEDRHTYTIINMETTQUEURI S-----MITPQIKONQNGWIGRHEVY 88
                                                                                                                                                                                                                                                                                                TYPE: amino acid
STRANDEDNESS: double
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOFTWARE: PatentIn Release #1.0, Version #1.30
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                                                                                                      & ALSENNWAVICESADSCN-----FYG 44
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PERFECTION  THE STATE STATE  OF THE STATE  O		] ] ]
DATUSTON -4 APPLICATION IS/ORCRAGE  SATURDAY 4 APPLICANT S.C. Geme III, Joseph W. APPLICANT BLICKANT, SUCCESSION PROTEINS  APPLICANT BATCHARD, SUCCESSION ADHESION PROTEINS  NUMBER OF INVENTION: HARMOPHILUS ADHESION PROTEINS  NUMBER OF SEQUENCES: 6  SIGNAMESSEE: Flohr, Holbach, Jost, Albriton & Herbert  SIREET: Four Embarcadero Center, Suite 3400  SITTE: California  COMPUTER READABLE FORM:  MEDIUM TYPE: Floppy disk  COMPUTER READABLE FORM:  MEDIUM TYPE: Floppy disk  OPERATING SYSTEM, PO SUSYNS 1-S  SOFIWARE: Parentin Release #1.0, Version #1.30  GAPHICALION ASMERS  APPLICATION ASMERS  FILING DATE, 22 JGL 1996  FRICH APPLICATION: 424  PRICH APPLICATION: 424  PRICH APPLICATION: 424	ENGREPHICAGE STATEMENT STEETER ANY DELICALIST STATEMENT	and the second of the second o

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             easing Match (1925) Best Local Similarity (1928) Prod No. 0.041;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           INFORMATION FOR SEQ TO NO. 4.
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FILING DATE: 24-MAR-1995
ALLUCHLY/ACENT INFORMATION:
NAME: Silva, Robin M.
KEGISTRATION NUMBER: 38,304
REFERENCE/DOCKET NUMBER: A-61053-1
                                                                                                   1737 GKEGTGEVDEANSAGDEVKAGTEVTEKAGDNIK----TKDSXKDETYSLKKELKDIJTSVF 1752
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1629 REPRETENDENDE PATVASSINATARES SINCE 1629 PROPERTY PARTY SINCE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE CHARACTERISTICS:
LENGIH: 1512 amino acids
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595 ---TNNGGNSYSFOVPSGVALPGYWMLFVMNSAGV--PSVASTIRVTQ 639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    446 ---VIPPGST-----FITGGGPRGIPFEDSTPVFTPEIVVPEQDTFYKQNPNSIVRAYHS 497
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STRANDEDNESS: unl
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                                                                                                                                                                                                                                                                                                                                                                                                             ISTILEPISKYKWASSSICGFOTTNHFDAQTFTFN----YIYDSNGNLATRPKITRTST- 551
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REFERENCE/FACKET NUMBER: UFFIS.C3
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LENGIH: 1458 animo acids
                                                                                                                                                                                                    Chery Match 3.8%; Score 131; DF 2; Length 1358; Hest Local Similarity 22.1%; Prod. No. 9.033; Matches 124, Conservative 61, Mismatches 175, Indels 200, Saps
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FRIOR APPLICATION UNMBER: US 08/353,485
FILING DATE: 09-DEC-1994
CLASSIFICATION UNBER: US 07/647,119
FRICH APPLICATION DATA:
APPLICATION ENABER: US 07/647,119
FILING DATE: 25-DAN-1991
VILASSIFICATION UNBER: US 07/241,640
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FRICK APPLICATION NUMBER: US 07/241,640
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() JP/12/dY: linear
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COURTESSOURDENCE ALDRESS:
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NAME: Whittook, Fed w.
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CAMBUTER: IRM PC compatible
CAMBUTER: PC-DOS/MS-DOS
SOFTWARE: PatentLD Release #1.0, Version #1.25
SOFTWARE: PatentLD DATA:
CURRENT APPLICATION DATA:
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                                                                                                  153 WASHIAATHAHTIHIA-AHYYWEZ-YHVESSIAYWYKAMYK-THTYTTEASEFQN 249
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CTIY: Gainesville
                                                       65 VNGLSMLPRODGNONGWIGRHEVYLSSDGTNWGSPVASGSWFA-----DSTTKYSNFETR 119
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STREET: 2421 N.W. 41st Street, Suite A:1
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COMPUTER READABLE FORM:  MEDIUM TYPE: IBM PC compatible  GERATING SYSTEM: PC-DOS/MS DOS  SOFTWAKE: Patendia Release #i.0, Version #i.25 (EP)  CURRENT APPLICATION DATA:  APPLICATION UNMBER: US/07/731,157A  FILING DATE: 19410509  GLASSIFICATION DATA:  APPLICATION DATA:  APPLICATIO	RESULT 6 US-07-731-157A-5 US-07-731-157A-5 US-07-731-157A-5 US-07-731-157A-5 US-07-731-157A-5  Sequence 5, Application US/07731157A Patent No. 5457032 Patent No. 5457032  APPLICANT: Quax, Wilhelmus J. APPLICANT: Van der Laan, Jan M. APPLICANT: Lenting, Herman B.M. TITLE OF INVENTION: Mutated beta-lactam acylase dones NUMBER OF SEQUENCES: 50 CORRESPONDENCE ADDRESS: 50 CORRESPONDENCE ADDRESS: ANTRESSEE: COCALEY GOWARD CASTRO HUDDLESON & TATUM STREET: FIVE PALO ALTO COLNTRY: PALO ALTO SIATE: CALIFORNIA COUNTRY: USA ZIP: 94306	120 PARYVELVAITENMOOPMISTAFINVFONSSYTARUDGIGGMUPTLUDEPT 1/0  259VVITERSNYLPVIKQIQAGERSPYQUVSNLTAITUGGUKVILKWDAPSA 445  171 PAAAA

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-08-541-780-5 ; Segment No. System in PS/08541780 ; Patent No. 5935831
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT
                                                                                                               Query Match 3.8%; Score 130; DB 2; Length 846; \mu_{\rm CP}; Local Similarity 19.0%; Frod \mu_{\rm C} 0.0%; and Matches 134; Conservative 66; Mismatches 243; Indels 262; Gaps
                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    INFORMATION FOR SEQ ID NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Quan,
APPLICANT: Misset, Onno
APPLICANT: Van der Laan, Jan M.
APPLICANT: Van der Laan, Jan M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDIUM TYPE: Floppy disk
COMPUTER. IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SCETWARE: Patentin Felegae #1.0, Version #1 25 (BPO)
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Van der Laan, Jan m.
APPLICANT: Leuting, Herman B.M.
TITLE OF INVENTION: mutated beta lactam acylase genes
                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM: Escherichia coli
FUNITATION INFOFMATION.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FORESTACE ION NUMBER 52,759
REPERENCE/TOURET NUMBER GREG-027/00US
TELECOMMUNICATION INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE: 18-APR-1990
ATTOFNEY/AGENT INFORMATION INFORMATION INFORMATION INFORMATION NUMBER 72,7
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQUENCES:
                                   211 SAPITIAVQESNYPLKENQQNSQTAALLPRYDLPAPMLDPPAKGADGALLALTAGKNRET 270
                                                                                                                                                                                                                                                                                                                                                                                                             AUTHORS:
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                                                                                                                                                                                                                                                                                       TITLE: Fenicillin acylase from E.cell: unique
TITLE: gene-protein realtion.
JULINAL, Nucleic Acids Pos.
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38 FWHTEY--GAN---GDEKEEHTYTILMKTEGNENGISMI.EFGTGNQNGW------IGR 84
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                                                                            2 SAPIGSAISRNNWAVTCDSAQSGNEC-----NKAIDG-----NKDT 37
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Sizmann, D
Haug, H
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                                                                                                                                                                                                                                                                                                                                                     Buckel, P
Bock, A
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US-09-446-247-2
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BS-09-346-237-2
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EARLIER APPLICATION NUMBER: 60/0
EARLIER FILING DATE: 1998-07-28
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1117 D OF INVENTION: Starch Debranching Dazymos
FILL REFERENCE: 5629,200-US
TORKET APPLICATION BUNDER, US/09/346,237A
TURRENT FILLING DATE: 1999-07-01
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                                                                                                                                                                                                                                                                                                                                                                     PEATURE:
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                                       3.7%, Score 128, DB 4;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
APPLICANT: Kofod, Lene Venke
                                                                                                                                                                                                                                   APPLICANT: Dalboge, Henrik
APPLICANT: Kauppince, Markus Sakari
APPLICANT: Christogau, Stephen
APPLICANT: Heldt-Hansen, Hans Peter
APPLICANT: Christophersen, Claus
APPLICANT: Nielsen, Per Munk
APPLICANT: Voragen, Alphons Gerard Joseph
APPLICANT: Voragen, Alphons Gerard Joseph
APPLICANT: Voragen, Alphons Gerard Joseph
COMPUTER READABLE FORM: MEDIUM TYPE. Flappy
                                                                                                                                                                                           NUMBER OF SEQUENCES: 3
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         529 HENREY - LISNON - - - - - - - - LATERETHESTQSVEV - - - - - - - - GGRITTISTDSS | 567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            476 Y-VPEQDTFYKQNPNSIVRAYHSISLLLPDGFVFNGGGGLCGDCTTNH-FDAQ1-----F 528
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           449 GKYLALO FRGIKGEUNVKI GIDSIKQI GITHVULMEVFASNSVEETDETQUNWGYDEKN 498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          194 CLYPASTEHTSVVIPPO STFITCOSERCIPPESTPVPT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ON PROTESMIV . : CLAKTOPAGWNSBKHITPKNIEDEVIYEMDVFDFSIDENSGMKNK 439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               337 TKTVPMTASGHOVWEATVNQNLENWYYMYEVTGQGSTRTA-----VDPYA---TAIA 385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         *46 COARDSTAM .......WWYY---TSISCEVESACKEOSNECVAPDAMCCHAVM 388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             277 TEGYMAFMVIPHNVENSSMYYKSOPHIONIYIMHATTEFVWAPTSTMVNVIIYDSATGSV 336
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                                                                      COUNTRY:
                                                                                                                     CITY: New York
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                                                 ZIP:
                                                                                                                                                                    ADDRESSEE:
                                                                                                                                            STREET.
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|c. 5811291
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                                                                                             New York
                                                                                                                                       405 Lexington Avenue
                                                                      USA
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Dalboge, Henrik
                                                                                                                                                                    No. 5811291o No. 5811291disk of No. 5811291th America
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FILING DATE: 29 AGG 1995
CLASSIFICATION: 435
ALTORREY/AGENT HIFTEMATICK:
NAME: Greed, Valeta
REGISTRATION NUMBER: 35,127
REFERENCE/CLCKET WIMBER: 35,127
TRILEPAN: (212) 4574-9/55
INFLRMATION FOR SEG ID NO: 2:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MELECULE TYPE: protein FRAGMENT TYPE: internal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE CHARACTERISTICS:
LENGTH: 527 amino acids
TYPE: amino acid
STRANDEDNESS: single
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                                                                                                              500 LILEPEGRAFNOGGGLCGECTINHFEAGIFTPNYLYD 535
                                                                                                                                                                                                                                                    443 TSVVLPDGSTFTTGAZQBBG:PFFGGGPTFFFT---VPFQGTFYKQNPNSIVPAYHSIS 499
                                                                                                                                                                                                                                                                                                 432 GAAILE---IGIILSEAGCED-----QATINSY---TGSAPAAPINL-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      162 SAVKPAASSIPASEISIISIVILIP YSTIAVIHILUKUESSSISIISBULIKKUIDEEKAI 221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              138 TSIAEINVFQASSYTAPQFGLO--RWGPTIDLPIVPAAAAIE------PTSGRVLMW 186
                                                                                                                                                                                                                                                                                                                                         284 GNAVMYDAVKOKILTE SIBIDYÇDSDATINAHITILGBEGTJENTVEASNGLYFAKTEH 442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      222 YWYNRSOHVQTESYFMOTHOFT SWYTSFSOTTS TO THE STEAKTH KGYVAAEGHGAVAG 281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          204 H. AWIFTWEKTTVELATISTAMWWTYITTTTV ...-FSACEWOSHEGVAFDAMC 383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          340 TVSAGSTITKNISGSVKTUTTIFKIGE------WEGQDIAFKN---AANHVKMHESDS 388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               282 TASHADSSMDWVVHWYNIAAQYWTYT3SSGSFISPAMKEGTYIMVY--YLGGGYAVAISSV 339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   206 SWDPSIGIVSDRTVIVIKHDMF------CPGISND ....-----GNGQIVV 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER: IBM PC compatible operations SYSTEMARE: Patentia Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        86 EVYLSSDOTKWOSEVASGEWEADSTTKYCHFETKEAKYVKLVAITEA+
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M-LECULE INFE: protein

FRAGMENT TYPE: internal
US-U9-102-433-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 3.7%; Score 127; DB 2; Length 527; Bost Local Similarity 19.6%; Pred. No. 0.017; Matches 113; Conservative 69; Mismatches 154; Indels 240; Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEPHONE: (212) 867-0123
TELEFAX: (212) 878-9655
INF-HMALLAN FUE SEQ IL NO. 2:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CENERAL INFORMATION:
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APPLICANT:
APPLICANT:
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APPLICANT:
APPLICANT:
APPLICANI:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PILING DATE: 29-AUG-1995
ATTOFNEY/AGENI INFORMATION:
NAME: Gregg, Valeta
REGISTRATION NUMBER: 35,127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Nielsen, Per Munk
APPLICANT. Voragen, Alphons Gerard Joseph
TITLE OF INVENTION: An Engyme With Bhamnogalacturonase Activity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PEPERFNOEZUNGKET NUMBER: 49
TELECOMMUNICATION INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CORRESPONDENCE ADDRESS:
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181 ASGADESMUMVVHMYNDAAQYMTYISSEGETTSTAMKFGTYTMVY · YQGEYAVATSSV 339
                                             242 TGG------NDAKKTSLYDSSSDSWI-----PGPDMQVARGYQ-----SSA 276
                                                                                           222 YWYMNSHHV@TESYPMGLHHPYSMYFSPSGTPSTSTHTISFFAHLLITKGYVAASGFGKVAG 281
                                                                                                                                                                                   162 SAVKPAASSTRASDLSTISDTALPGMPTAVCMILNQYESSSGGPFHRDINSNNGGSYNAL 221
                                                                                                                                                                                                                                                                                                                       138 TSIAEINVFQASSYTAPQPGLG--RWGPTIDLPIVPAAAAIE-----PTSGRVLMW 186
                                                                                                                                        187 SSYR------GGITLTS 205
                                                                                                                                                                                                                                                                            169 -----IIHMATYTTAEPSTGELBETAKLNSOLLDTRSRLATEPPPLTGLPLKOMOCW 161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWAPE: Patontin Poloago #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CITY: New York
                                                                                                                                                                                                                                                                                                                                                                     60 ELQYSSQGSHIGSGLGSATVTA------TQSGDYIKVTCVTDTLTQYMVVHNGDP- 108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COUNTRY:
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                                                                                                                                                                                                                                                                                                                                                                                                                86 EVYLSSDGTNWGSFVASGSWFADSTTKYSNFETRPARYVRLVAITEA------NGQPW 137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER:
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Dalboge, Henrik
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Christyau, Stephen
Heldt-Hansen, Hans Peter
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APPLICANT: St. Geme, Joseph
AFPLICANT: Barcakamp, Stephen I
TITLE OF INVENTION: HARMOPHILLS ADHESTON PROTEINS
NUMBER OF SPOURNCES: 19
CORRESPONDENCE ADDRESS:
                                                                           ATTORNEY/AGENT INFORMATION:
NAME: Vance, Dolly A
PEGISTRATION UNMERS: 39,054
FIFEESA-F, Ferrer MINISE A 6:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION OF 11989
TELEX: 910-277299
TELEX: 910-277299
                                                         INFORMATION FOR SEQ ID NO: 4:
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MEDIUM TYPE: Floppy
COMPUTER: IBM PC con
SEQUENCE CHARACTERISTICS:
LENGTH: 2353 amino acids
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PRIOR APPLICATION DATA:
APPLICATION WIMPER: PTT/TIS96/4031
FFF TM PATE: 22-MAP-1996
                                                                                                                                                                                                                                                                                                                                                                                                                           CLASSIFICATION: 514
PRIOR APPLICATION NUMBER: US 08,400,995
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"CMPSTTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SCHTWAPE: Fabritt: Pc-boar #1 C, Virsion #1.30
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CITY: San Francisco
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US-08-587-702-37
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AFFLICANT: Teague, W. Martin APPLICANT: Brumm, Phillip J. APPLICANT: Allen, Larry N.

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FORE, PRT
GRANIER: Artificial Sequence
ES: 09-513-677-17
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EARLIER FILING DATE: 1998-05-18

MUNICIA AFFICALLOR NUMBER: 60/122,665

EARLIER FILING DATE: 1998-05-18

NUMBER: FALORIER FILING DATE: 1998-05-18

SOFTWARE: Patentin Ver. 2.6

SEC 10 No 17
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                                                        585 TDQRRIPLTLTNNGGNSYSFQVPSDSGVALPG 616
                                                                                                                       624 SOFONETAAEREMVOKETTISSI KEWVNEYHVDGERETIM--AGIOKETIMSKAATQOHAT- 680
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                                                                                                                                                                                                                                                                                                                Query Match 3.73, Score 125.5, 28.2, Leadth 1732; Rest Local Similarity 21.1%; Prod. No. 9.14;
                                                                                                                                                                                                                                                                                    Matches 148; Conservative 81, Mismatches 238,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Flogalske-Fox, Ann APPLICANT: Tumwasorn, Somying AFFLICANT: Lepine, Guylaine APPLICANT: Han, Naiming APPLICANT: Lantz, Marilyn APPLICANT: Patti, Joseph
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELEFAX: (904) 372-5800 INFORMATION FOR SEC ID NO: [
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE CHARACTERISTICS:
LENGTH: 1732 amino acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CLASSIFICATION: 424
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE OF INVENTION. Cloned Perphyromenas ginginalis Genes
TITLE DE INVENTION: and Probes for the Detection of Periodontal Disoase
NUMBER OF SEQUENCES: 29
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CLASSIFICATION 424
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FILING DATE: 09-DEC-1994
CLASSIFICATION: 424
PRIOR APPLICATION DATA
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                                               120 PARYVRLVAITEANGQPWTSIAEINVFQASSY-----TAPQPG---
                                                                                             615 QASYSI-----QASAGSY-VAISKD@VIYGT@VANASGVATVSMTKQITEN@NYD-- 663
                                                                                                                                                                                            558 WAGNLAATHAGNIGNITHIG-AHYYWEA-YHVLGDGSVMPYRAMPK-TNTYTLPASLPQN 614
                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: amino acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MESTIM TYPE: Floppy disk COMPUTER: IBM PC compatible operating system: PC-nos/MS-Dos
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                                                                                                                                          AS ANGUSMIS RETONONOMICH HITATISSICIANMISI ASOSMIA - - - - ESTEKYSNEETR 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME: Whitlock, Ted W
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FILING DATE: 25-JAN-1991
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                                                                                                                                                                                                                                       14 WAVTCDSAQSGNECNKAIDGNKDTFWHTFYGANGD-----PKPPHTYTIDMKTTQN 64
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-VVITRSNYLP--VIKQIQVGEFSFYQPVSNLTATTQGQKVTLKWEAFSAKKAE 714
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Maximum DB seq length Zhenharma
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expression in nost cell, by comparing free energy of folding of a starting polynucleotide and a modified polynucleotide having a codon	Designing synthetic nucleic acid sequences for improved amplification,		N-PSUB; AAH74501.	WP1: 2001-483235/52.		Rozzell DJ, Bui P, Hua L;		(BIOC-) BIOCATALYTICS INC.		08-080-2000; 2000HS-07-442-7	31-JAN-2000; 2000US-0494921.		31-JAN-2001; 2001WO-US03186.		02-AUG-2001.		W0200155342-A2.	The contract of the contract o	Hypomyces rosellus.		A CONTROL OF THE PROPERTY OF T	Mothing a parametrase, macA done first folding energy; gene shuffling:		PRINCIPLE CONTROL OF THE PRINCIPLE CONTROL OF		10.00T.2001 (first entry)		AAGUISB2;		AAGESSE Standard, Freieric 680 AA	AA363592	

Claim &; Page III-113; 117pp; English.

The present sequence represents a galactose enzyme. The polymucleotide was modified using using the method of the invention. The specification describes a method for designing a synthetic realymucleotide. The method comprises providing a starting polymucleotide, advermining the predicted free energy of folding per base of the comprises providing a starting polymucleotide, determining free energy of folding per base of the modified polymucleotide, determining free examples of folding per base of the modified polymucleotide, and recomprise that the energy of folding per base of the modified polymucleotide, and respectively of folding per base of the modified polymucleotide, the method is useful for developing nucleic acid sequences that enhance expression of the encoded protein in a heterologous bast. The design and preparation of the synthetic uenes are used in application of each should evolution and molecular breading methods. The method allows repression of these from various organisms such as mammals, plants, but only a such a start of the content of the content of the method allows and expression of the start at commercially viable levels, in particular transportances with low yield such as method as method as the proteins with low yield such as method as method as the proteins with low yield such as method as method as the proteins with low yield such as method as method as the particular transportance with low yield such as method as method such as method 
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                                                                                     and outaryotic hosts at commercially viable levels, in particular proteins with low yield such as methionine gamma-lyase from {\rm P}_{\rm c} ou
                                                                                                                                                                                remparing this with that of the original polynocleotide. The method is useful for developing nucleic acid sequences that enhance expression of the canaded protein in a heterologus bost. The design and preparation of the synthetic genes are used in application of gene shuffling directed evolution and molecular broading methods. The method allows expression of genes from various organisms such as mammals, plants, weast, fangl and bacteria in probabyotic bosts, such as Escherichia colinear.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            specification describes a method for designing a synthetic polynucleotide. The method comprises providing a starting polynucleotide polynucleotide in predicted free energy of folding per base of the polynucleotide, modifying the polynucleotide by replacing a codon with a firstore. The to provide a medified polynucleotide, determining tree energy of folding per base of the modified polynucleotides, and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   posigning synthetic nucleic acid sequences for improved amplification, expression in legst cell, by comparing free energy of tolding of a starting polynucleotide and a modified polynucleotide having a codon
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The present sequence represents a modified galactose exidase enzyme. The polynucleotide was modified using using the method of the invention. The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (laim 6; Page 115-117; 117pp; English
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                                                                                                            6) TEGNVNGLSVI PRODGINGMEGRHEVYLSSDGTNWGSEVASGGMEADSTTKYSNEETRE 120
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Arabidopsis thaliana protein fragment SEQ ID NO: 25861.

Protein identification, signal transduction pathway, metabolic pathway,  $h_i b_i idisation$  assay; genetic mapping; gene expression control; promoter; termination sequence.

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                                                                                                                                               Novel isolated defence related signalling gene isolated from sunflower encoding neoxanthin cleavage enzyme, amino acid permease or glutamic acid rich protein useful for increasing resistance of plant to a
                                                                                                  Example 1; Page 128-135; 135pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   210 tgtpkqvkygqffsvkvdlkekgankgnlkvtmlapaftthsismumrmlligvsuvkpa 259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             152 myhssaiilpdgkvlvggsnindgykynvefptelrvekisppyidpalani--rpkivt 109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               494 AYHSISLLLFDGKVFNGGGGLCGDCTTN-HFDAQI----FTPNYLYDSNGNLATRPKITR 548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           439 RTEHTSVVLPMASTFITGAAAPRGIP--FEDSTPVFTPE1YVPEQ---DTFYKONPNSIVR 493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     599 GNSYSFQ--VPSDSGVALPGYWMLFVMNSAGVPSVASTIRV 637
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   549 TST-QSVKVSSPTTTSTF------SSTSKASLIPYGIATHIVNIDQRRIPLILIN--NG 598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9 Match 6.4%, Score 218.5, DB 21, Local Similarity 29.0%; Pred: No. 2.5e-08; has 64, Conservative 36, Mismatches 96,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             92 rimsdtrilpsydillvngakrycsgwyjykdpafapllykphaarykriiylkpttipr 151
                                                                                                                                                                                                                                                                                                                                              941%-0149555
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9908-0161992.
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This invention relates to defence-related signalling genes isolated from the sunflower (Helianthus annums). The genes encode a neovanthin cleavage enzyme (NCE), an amino acid permease (AAP) and a glutamic acid rich protein (GRP). The signalling gene is useful for increasing the resistance of a plant to a pathogen such as fungus, virus, bacterium, nematode or insect (e.g. European corn borer), preferably

Selectinia spp., Phoma spp., or Phomopsis spp, by stably incorporating a construct containing the gene into the genome of the plant. The gene is useful for regulating deep expression in a plant, in response to a stables such as intection with a pathogen, damage from a pathogen, hadronen percoids, jasmonaic avid, martly language sailcylic acid, explicitly acid or expression of a gene encoding exallegate expression in genes are also useful for stem-preferred regulation of gene expression in a plant. The denes are useful in agriculture, particularly in the freeding of crop plants with improved agronomic traits, for modifying abselsic acid (AbA) metabolism and for modifying amino acid transport and content in plants. The present sequence represents a glutamic acid rich protein (GRP) like protein isolated from Synechocystis sp. The protein is used in the characterisation of sunflower AAP. 1749 AA; 4.3%; Score 148, DB 22, Length 1749; 20.0%; Pred. No. 0.053;

.**1**(1 -4.3%; Scott 148. DB 22, Echyth 1/49; Hest Local Similarity 20.0%; Pred. No. 0.053; Host Similarity 20.0%; Pred. No. 0.053; Mismatches 248; Indels 244; Caps Marches 144; Conservative 85; Mismatches 248; Indels 244; Caps 274 asıldlılarıpa per -- etteptenlespipesetisanedasgkstnissgggvalag R29 681 imaganystu----mintragmydigalqnistgsiytsptcgnagny-ilmaggtlttq 735 446 [[]dploiserted:[adphivsv[titts]dngnvil]adqs[av---151 qsaiqfqndqwt----qvtsdndyn-align----The ISKASLIKIGIA (HIVNIDORKITILLINK FIRE FNOOGGLEGIXTIINHEDAQIETENYLYDSNGNLATRPKIIRISIQSVKVGGKIIISIDSS 567 530 tapintgat.vt.pituldidokiqisanttitapgydi,irksvajgidilgaacivy: 588 369 OKKESMROVARSVARSVANVENAVKSKILTEGOSEGTEGSLATTNAHLITLGEEPG CHIMAINATINE DEL 224 HUMFOYGISHD----CNEQIVVECENDAKEISLYPSS----SESWIPGPHMQVAKG --. albadapaninan (77 121 ARYVKLVALTIDAMIÇEWISTADINVEÇASSY 64 - NVNGLSVLI KOOCHOROWI GRHEVYLSSDGTRWGSPVASGSWEADSTI KYSNEETRP 120 6 GSATPRNN--WAVICDSAQSGNECNKAIDGNKDTEWHTFYGANGDFKFFHTYLLDMKITQ 63 GORRGIPEESIPVFIP-----EIYVPEODIFYKONPNSIVKAYHSISLLLEDGKV 507 iswaddstrfsanisagygtmag----ngqfvetsgakslmsddtarentfatmgelgtw 445 --YUSSAIMSUSIKVETIGOSWSOGVERKMOLVYSPSSKIWISIPNAKVNEMITAFKQOLY 329 dylargyatidisynyygetiziegedfepeltlynäsetlidsnsvykadalltgnggts 389 .....ISP......NIVFASNG.-I.YFARTEHTSVVLPDGSTFITG 456 VEAAAAIEEESGRVLMWSSYRNDAFEGSEGJITLTSSWD---PSTGIVSDRTVTVTK 223 ----fddqaaittplksfqytatcija · · · · rinisqagsilslevevopymmagggstsvldiptlliqq 272 -----WKKGSV-F<sub>2</sub>AGPSTAMNWYY1SGSGDVk5A 368 \_ ----Idigi LadoMad BalodVI գրվու նաևին չորսի CORSISTAVE SUBSEVALED the ----psqfafdlanpg 188

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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                     Matches 106, Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                disease, sarcoidosis, sinusitis, purnient of its media, erythema nodosum or pharyngitis. The polypeptides encoded by the open reading frames of the C. purumoniae denome (see AAV4584-Y4587) can be used in immunoacciic compositions as vaccines. Vectors containing C. pneumoniae nucleofides sequences can also be used as immunoacciic compositions, especially where the vector directs the expression of a neutralising epitope of C. pneumoniae.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Respiratory disease; pneumonia; bronchitis; heart disease; sarcoidosis; sinusitis; purnient offitis media; erythema nodosum; pharyngitis; vaccine; neutralising epitope.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAY34584-Y35879 represent the proteins encoded by all the open reading frames in the complete genome (see AAX91990) of Chlamydia pneumoniae. C. pneumoniae causes respiratory disease such as pneumonia and bronchitis and is thought to be a contributing factor in heart
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAY35162 standard; Protein; 1146 AA.
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21-NOV-1997;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Genome sequence of Chlamydia pneumoniae
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                                                                                                                                                                                                                                                                                                                          189 IVPAAAALEPTSGRVL-MWSSYRNDAFFOSPOGITLISSWOPSTGIVSDKIVTVIKHDME 227
                                                   376 GVAPDAMCGNAV-MYDAVKGKILTEGGSPDYQDSDÄTTNAHITTLGHEGISPHTVFASNO 434
                                                                                           331 SDNH--AWLEG-----
                                                                                                                                                                     280 DORVE--TIGGSWSGGYFEKNGEVYSDS----SKTWISLPNAKV:--NPMLTADKOGLYR 330
                                                                                                                                                                                                                                                                                         380 itsnowtiennsqpiiflnnsakseattaataq---- nkdscqgalaansytltun--- 431
                                                                                                                              peitfkgnyactggaigeidltngspprkwsiadngsvlt----------------qdnsalnr 479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1146 AA;
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                                                                                                                                                                                                                                                                                                                                                                   4.2%; Score 145; DR 20; Length 1146;
21.9%; Pred. No. 0.049;
ative 68; Mismatches 175; Indels 136;
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                                                                                                                                                               therapy and variable product 2. N and P may be used in the prevention, diamness and treatment of diseases associated with inappropriate P expression. For example, M and P may be used to treat diseasers associated with decreased expression by rectifying mutations or deletions in a patient's denome that after the activity of P by expressing inductive proteins or to Supplement the patients own protein of P. Additionally, N may be used to produce the potion career associated PS, by inserting the model to produce the colon career associated PS, by inserting the model and of the proteins. N and P can be used in the proteining dispracis and treatment of colonectal careinomas and cancers. AAH37196 to AAH37206 and AAB77785 officeant Sequences associated to the competition of the protein Sequences.
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J3 NoV-1999;
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N.B. pages 666 to 682 and page 705s of the sequence listing were missing at time of publication, meaning no sequences are present for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              cancer-associated machine until molecules (N) and proteins (P), where the proteins are confectively known as colon cancer antigens. The colon cancer antigens have cyrostylic activity and can be used in gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAH32343 to AAH32195 and AACZ'511 to AACZ7288 represent human colon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 11; Page 7561-764; 9803pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Nucleic acids encoding 4277 homen colon cancer-associated polypoptides, useful for preventics, diagressing and/or treating orderworst cancers -
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11-TAN-2000; 2000:TP-0118776.
02-MAY-2000; 2000:TP-0183767.
                                                                                                                     29-JUL-1999;
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Guery Match 4.2%; Score 142.5; DB 22; Length 600; Hest Jocal Similarity 19.1%; Pred. No. 9.029; Matches 93, Conservative 71; Mismatches 167, Indels 157,
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polynucleofides, particularly the 5602 full-length characteristic detailed in the specification, and for the detection and/or diamostic of the absenuality of the proteins encoded by the
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Best Local Similarity
                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                  The present invention provides the protein and coding sequences for ten human immune response molecules (designated IMBM-1 to IMBM-10). The sequences can be used in the diagnosts, treatment and prevention of autoimmune and inclammatory disorders such as Albs, atherosolerosis, asthau, allegies, Crobo's disease multiple selections, and cell syndrome, psoriasis, rheumatoid arthritis and injections, and cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Novel human immune response molecules (IMUN), useful for diagnosing treating and preventing disorders associated with abnormal expression of IMUN, e.g. Addison's dispase, allergies, anemia, asthma and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Disclosur: Page 83-84; 95pp: English.
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09-SEP-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAB67050 standard; protein; 642 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                      proliferation disorders including arteriosclerosis, cirrhosis and cancer
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  186 WSSYRNDAFEGSPGGITLTSSWDPSTGIVSDRIVTVTKHDMFCPGISMDDNGQIVVIGGN 245
                                    313 evifilgruspassptstpklskslsfemgabeliekpmapmagarsalataemmaklia 372
                                                                                                                          267 -isssst---- - gelssphatogs----pkhowkivasektsonty)elavidaid 312
                                                                                                                                                                                                           229 hklidanildgqacviqsådd----hiqfvqkkp-----prenghkq-----
                                                                                                                                                                88 YLSSDJINWGSPVASGSWFADSTIKYSNFETRPARYVRLVALTEANGQPWTSIAE1 - - 143
                                                                                                                                                                                                                                                  29 HEALL-CHECTEWHTEY-CANCEPETERTY IT METI-QNVN IT SYLLPPOP "NOWIGHTEV" 87
                                                                                 -----NVFQASSYTAPQPGLC----RWGPTIDLPIVP----AAAAIEPTSGKVLM 185
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                                                                                                                                                                                                                                                                                                           4.2%, Score 142.5) DH 2J: Length 642:
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chromosome 2422. The mucin genes or its portion is used in detecting parymosphism, mutation, acterion, transation and expansion in the gene of its gene transatipt. Pharmacerical compositions and gene therapy constructs comprising the amount genes are used for treating disease conditions associated with aberrant Mucin expression, altered properties
                                                                                                                                                                                                    Claim 10; Page 83-88; 104p; English
                                                                                                                                                                                                                                                 North MSC hashers acid corresponding to makin gene, useful for treating dissociated disease for introns e.g. colorectai, breast cancer, cystic fibrosis and inflammatory bowel disease.
                                                                                                                        the invention provides marin genes (MUCL) and MDC12) located on human chromosome 2422. The much genes of its portion is used in detecting
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (2008) COUNCIL OHEENSLAND INSI MEDICAL RES. (2008) ORDER OF SISTLES OF MERCY IN COEFUSIAND.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Macin; MUC11; MUC12; human, chromosome 7q22, epithelial inflammation; Tohn's disease; sicerative colitis; asthma; chronic bronchitis; colorectal garger: cystic tibiosis, inflammatory nower disease;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 4.2%; Seere 142.5; 58.21; Length 957, Best Local Similarity 20.4%; Prod. No. 0.058,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      of mucus or opitholial inflammatory processes involving Mucins like Crohn's disease, ulcerative colitis, asthma, chronic bronchitis and colorantal cancer. The much genes and the polypeptides are used for determining these diseases or their predisposition. The MUCII and MUCII published the used for predisposition and antibodies. The present sequence
625 gygeesttsrsgpgsthstvspast--itpg 653
                                                                                                               571 rqosttsrispasteittligs---ttipglseasttfysspaspatt --lspasmasi 624
                                                                                                                                                                            538 GNIATRPKTTRTSTOSVKVCGRITISTDSSISKASIIPYCTATHTVNTDOPPIPLTLTNN 597
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## ALIGNMENTS

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Query Mitch Best Local Similarity 99.2%; Pred No. 1 90.207, Lungth 728; Matches 634; Conservative 2; Mismatches 3, Indels 0; Gaps

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1 ASAPIGSATPRNNWAVTCDSAQSGNECNKATDGNKPTEWHTEYGANGDPKPPHTYTIDMK 60

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Type The tical protein AAG12543.1 (imported) - Arabidopsis thaliana
Type The Translatopsis thaliana (mouse ear cress)
Type To Mar 2001 #Sequence_revision 02 Mar 2011 #text_change 31 Mar 2001
The October A. Beker, J.R.; Palm, C.J.; Federspiel, N.A.; Kaul, S.; White, O.; Alouso, Cillo October A. B.; Conn, L.; Conway, A.B.; Corway, A.P.; Creasy, T.H.; Dewar, K.;
Theologis, A. Beker, J.R.; Jenkins, I.; Conway, A.B.; Corway, A.P.; Creasy, T.H.; Dewar, K.;
Insen, N.J.; Hudhes, M.; Helzar, L.
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Action 4 M.; Bekerg, J.L.; Jenkins, I.; Tohuson-Hopson, C.; Khan, S.; Khaykin, E.; Kim, C.
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Action, M.; Kosher, J.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sun, H.; Tallon, C.
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Action, S. Salzbord, S. 
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overy Match. 7.9%, Score 200, 108 2, Hest Local Similarity 24.9%; Pred. No. 1.1e-09; Matches. 118, Noise satisfier 75, Mishatches. 200
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submitted to the Protein Sequence Database, April 1999
Asketerence number: Z15794
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285 EVELMVCGGSPKGGFSRGFIRA-ISINGRLKISDQSPS--WEMEIMFLPRVMGDMLLLPT 341
                                                                                                                                                                                                                                         186 RUFNYELFPRH-ESKERSSKLEITLKEISLUSMENMLYFFIHLLFEGMEIVFAMIRGIVFU 244
                                                     193 KGKILIEGGSPUYEDSDAI)NAHIIILGE---PGTSPNIVFASNGLYFARTFHTSVVLPD 449
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A:Authors: Hunter, J.L., Jenkins, J.; Jöhnson-Höpson, C., Khan, S., Khaykin, E., Kim, A. F., F. H.; I.H.; Y.Lin, X.; Lin, S.X., Lin, A. A. Luros, J.S.; Mairi, F. Marria Rizzo, M.; Rooney, T.; Powley, D.; Sakano, H. A.Authors: Salzberg, S.L.; Schwartz, T. P.; Shinn, P.; Southwick, A.M.; Sun, H.; Tallo Rer, M.; Wu. D.; Yu. G.; Fraser, C.M.; Venner, J.C.; Davis, P.W. A.Title: Sequence and analysis of chromosome 1 of the plant Arabidopsis. A; Reference number AR6141; MHTD-21016719
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Thio, T.W.; Thung, M.F.; Thom, L.; Thuway, A.B.; Thuway, A.P.; Treasy, T.H.; Dewar,
ansen, N.F.; Hughes, B.; Huizar, L.
Naturo 408, 816-820, 2000
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473 PEIYVPEQD----TFYKQNPNSIVRAYHSISILLPNGPVFNGGG------GLOGDOTTNH 522
                                                                                                                                                  421 E-----PGTSPNTVFASNGLYFARTFHTSVVLFDGSTFITGGQRRGIP-FEDST-PVFT 472
                                                                                                                                                                                                                             262 GGDKRNYPSTGSS-VLLPLFLTGD-INRTKITAEVMVGGGAPPGAFFKAARTIPKIFVAG 319
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                                                                       320 SRTOGKLKVTOPOPKWYMEDMPSPRYMSDMLLLPNGOVLI INGAANGTAGWEDATNAVIN 379
                                                                                                                                                                                                                                                                                                R62 SCHVKSAGKPASNFGVAPHAMCGNAVMYDAVKGKILTFGGSFDYG-DSDATTNAHIITIG 420
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Alternate names: neuraminidase (NC 3.2.1.18) - Migromonospora viridifaciens (Alternate names: neuraminidase aspeciess Micromonospora viridifaciens aspeciess Micromonospora viridifaciens (NC 10.1m.1994 #Esquence_revision 18 Nor-1994 #text_change 22-Oct-1999 Accession: A45244

(Substituta, E., Obt., T., Hissejasa, M. Batternol. 174, 6896-6903, 1992 (NC 1994) Accession: A45244; MOID:93015752

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d'iness referènces. LBBL.XC>200, Wib.q40602, £jDW.CAA44916.1, Elo.q40663
USupertamily: Clostridium exo-alpha-sialidase
(Koywords: q1yegsidase; bydrolase
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RESULT 8 A83412

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Abypothetical protein PA1874 [imported] - Pseudomonas aeruginosa (strain PA01)
C)Species: Pseudomonas aeruginosa
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R, Stover, C, E.; Pham, X, Q,; Etwin, A.L.; Mizeguchi, S, D.; Wairedon, P.; Hirkey, M.J.;
R, Stover, C, E.; Pham, X, Q,; Etwin, A.L.; Mizeguchi, S, D.; Wairedon, P.; Hirkey, M.J.;
adman, S,; Yuan, Y.; Brody, L.L.; Coulter, S, N.; Folger, K, R.; Kas, A.; Laibig, K.; L.
J, Lory, S,; Olson, M.V.
Rj. Hor 106, 949 044, 2000
A;Title: Complete genome sequence of Pseudomonas aeruginosa PA01, an opportunistic pa

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glyoxal oxidase (EC 1.2.3.-) precursor - basidiomyeete (Phanerochaete chrysosporium) C:Species: Phanerochaete chrysosporium C:Date: 27-5u:-1904 #sequence_revision 27-5u:-1904 #fext_change 31 Mar 2001 C:Accession: A48296
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Froo. Math. Acad. Sci. U.S.A. 90, 7411-7413, 1993
A:Title: Cloning and characterization of a cDNA encoding glycxal oxidasc, a H-26-2-pr
A.Mcforence number: A48236, MULD:33348282
A:Accession: A48296
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A:Residues: I-1361 <PAR>
A:Cross-references: EMBL:ALO31155; MID:c1313489; PID:c1313595; FIDN:CAA20079.1
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A;Accession: T29435
A;Status: preliminary; translated from GB/EMBL/DDBJ
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A; Residues: 1 559 kKER:
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Best Local Similarity 32.9%; Pred. No. 0.00018;
Matches 50, Conservative 22, Mismatches 62, Indels 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1273 GPNGRYAGYEVAVSGEGEAW-TIVATGILEEVPRIGEVSEGRVEASYVRETALGALNOOD 1331
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                                                                                                                                   291 SGGVFFKNGFVYSP------SKKTWTSLPNAKVNPMITADKQGLYRSDNHAWL 337
                                                                                                                                                                                                                                                                       119 APPGNQAIRIFEPCAS---PSGDGCTLFEDPATVHLLEERWYPSSVRIFDGSLMIIGGS- 174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             139 STAETNVFQASSYTAP----QPGLGRWGPT1DLPTVPAAAATEFTSGRVLMWSSYRNDAF 194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                62 LKINGESTWGALWDEDTSTVRPLSVLT---DSPCASGALLSNGIMVSMGGTPGGTGGDVA 118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3 SLLAVVSLAAATLAAPAASDAPG-WREDLKPNLSGIVALFAIVVNSSLVVIFDRATGDOP 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           atch 5.2%; Score 179.5; DB 2; Longth 559; ral Similarity 21.6%; prod No. 0.0006; 130; Conservative 83; Mismatches 228; Indels 161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EGSPGGITETSSWDPSTGIVSDRTVTVTKHDMPCPGISMDGNGGIVVTGGNDA------ 247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NONEWIGHHEVYLSSEGINWGSEVASGSWFALSIIKESNFEIHEAR) VELVAIILLANGOF 136
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-----A 217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels 161; Gaps
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MACCOSSION: M86807
WStatus: preliminary
MACCOULD Type: DNA
MERSIGNES: 1-1441 <$10.
MCTHASSITEDEPENCES: GRANDOS176: MID:gl2724450, FIDH.AAK05556.1, GSFDB.GH00146
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PSpecies: Lactococcus lactis subsp. lactis
PDate: J: Mar-2001 #sequence_revision is Mar-2001 #text_change is Mar-2001
PAccession: B8607
PSP (Session B8607)
PSP (Session B8607)
PSP (Malarme, Minrkor, F), Mauger, S, Jaillen, G): Malarme, K., Weissenbach, J., Ehrlighedtin, A, Winrkor, F), Mauger, S, Jaillen, G): Malarme, K., Weissenbach, J., Ehrlighedtin, A, Winrkor, F)
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:Hitle: The complete genome sequence of the lactic acid bacterism
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9901 SSSANTALOSATHTLACAGAGAGAANASSAGAAGAGATAASSAGSATAGAG-21A1 0101
                                                                                                                                                      9°4 IIGASISSVANITVNDSSNTTNPTDGTGGGNTTNPTLGNTIVLPGQDGK----LGTADDV 1009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          210 SIGIVSDRIVIVIKHDMFCPGISMDG------NGQIVVIGGNDAKKTSLYDSSSDS 259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     851 YSDETVNAPTAPAGYVLNDVNNKAVSVADANGVINFVYDAIQPTLTTKDSTIDEGSTWTA 910
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        911 ADNETGGTSSIGTVLTINDVTVTGTVDTS-----
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   11+ YS....NFEIKPARYV....-RLVAITEANG...-.QPWTSIAEINVFQASSYTA 153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WIT ALZAAAANINIIKO SIAB ......
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745 TYT 747
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C:Species: Escherichia coli
C:Date: 16-Feb-2001 #Sequence\_revision la-Feb-2001 #Lext\_change 31-Max-2001
C:Date: 16-Feb-2001 #Sequence\_revision la-Feb-2001 #Lext\_change 31-Max-2001
C:Accession: B85547
Rature 409, 529-53, 2001
A:Title: Genome Sequence of enterohemorrhagic Escherichia coli O157:H7.
A:Reference number: A85480, MM:H: 21074445; FMH::17266551
A:Cocession: B85547
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119 -RPARYVRLVAITEANGQPWTSIAEINVFQASSYTAPQPGLGKWGPTIDL----PIVPAA 173

Gaps 22;	there watch 4.6%; Score 158; DB 2; Length 2232; Best Local Similarity 20.0%; Pred. No. 0.091; Matches 144; Conservative 93; Mismutches 365; Indels 118;
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	Ryderisel, C.; Gattung, S. submitted to the EMGL bara Library, December 1996 Assessing the for the sequence of C. elegans cosmid K06A9. Assessions number: 221525 Assessions 194434
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"The three domains of a bacterial signidase a beta-propeller, an immunoglobulin module and a galactose binding jelly roll.";
Structure 1137 1257(15)5;
-!- FUNCTION: TO KRIENAU STALL! ACTES FOR USE AS CARDON AND ENERGY SCHALES FOR THIS NON-PAIROGENIC BACTERIUM WHILE IN PAIROGENIC MICROSPANISMS, STALLWASTS HAVE BEEN SUGGESTED TO BE DATHOGENIC MICROSPANISMS, STALLWASTS HAVE BEEN SUGGESTED TO BE DATHOGENIC MICROSPANISMS.
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Sakurada K., Ohta I., Hasegawa M.:
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[]. Bacteriol. 174:6896-6903(1992).
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Best Local Similarity
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01-APR 1993 (Rel. 25, Last sequence update)
01-APR-1993 (Pcl. 25, Last sequence update)
29-APS-1991 (Pel. 40, Last annotation update)
53ALIDASE PREPRINGSOR (EC 3 2.1 18) (NEUPAMINIDASE).
                                                                        SEQUENCE FROM N.A.
STRAIN-NC 0054714;
MEDLINE-91238593; FubMed 2034213,
hothe B., Rodgentin P., Schauer R.;
hothe B., Rodgentin P., Schauer R.;
"The stallidase gene from Clostridium septicum cioning, sequencing,
expression in Escherichia coli and identification of conserved
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                         sequences in sialidases and other proteins ";
M.L. Nen. Newst. 225 [30][97][93])
--- FRONTION: SIALIMASES HAVE BEEN SHARESTED TO BE PATHOXENIC FACTORS
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REPEAI
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                                                                                                                                                                                                                        bacteria, Kirmicutes, Bacillus/Clostridium group; Clostridiaceae,
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PDB, 1EUS, 11-JAN-97.
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Pred. No. 1.6e-07;
'5; Mismatches 53;
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Query Match (6.2%)
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Matches 168; Conservative 9
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Shiral M., Hirakawa H., Unichi K., Tabuchi M., Kishi F., Kimoto M., Takeuchi H., Nishida J., Shibata K., Fujinaga R., Yoneda H., Mi'kosahima H., Tanaka C., Furukawa S., Hiura K., Xakazawa A., Ishii K., Shiba T., Hattori M., Kuhara S., Nakazawa T.; "Comparisum of unter membrane protein genes omp and pmp in the whole genome sequences of Chlamydia pneumoniae isolates from Japan and the United States.";
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Nucleic Acids Res. 28:2311-2314(2000).
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Read T.D., Brunham R.C., Shen C., Gill S.R., Heidelberg J.E.,
White D., Hieley E.K., Deterson I., Tituthack T., Berry K., Bass S.,
White K., Weidman J., Khouri H., Craven B., Rowman C., Dodson R.,
Cwine M., Nelson W., DoRoy P., Kolonay I., Modlarry G., Salzberg S.L.,
Elsen J., Fraser G.M.;
"Connect sequences of chlamydia transcomatis MoPn and chlamydia
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Chlamydia pneumoniae (Chlamydophila pneumoniae).
Bacteria; Chlamydiales; Chlamydiaceae; Chlamydophila
NCB!_TaxID=83558;
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Mammalda, Eutherda, Rodentda, Schorognathi, Muridae; Murinae; Mus.
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"The SCAR transcript is an antisense PNA to a brain-specific transcript encoding a nevel actin-binding protein (KLHLI).";
Hum Mol Genet. 9:1543-1551(2000).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PEPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Cytoskeleton;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SMART; SM00225; BTB; 1
FEOSITE, PSEOCG7, BTB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PPINTS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           - '- SIMILARITY: CONTAINS 1 RTR/POZ DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -!- FUNCTION: MAY PLAY A ROLE IN ORGANIZING THE ACTIN CYTOSKELETON OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REPEAT
403 PDYQDSDATTNAHIITLGEPGTS-----PNTVFASNGLYFARTFHTSVVLPDGSTFITGG 457
                                                                  570 LNIVERWDPQSQQWTY-----VASMSIARSTVGVA-----
                                                                                                                                                                                                                                                                                                                            462 GTLYAVGGMDNNKGATTLEKYDLRINLWIQA-GMMNGRELQFGVAVIDTKLFVIGG--RD 518
                                                                                                                                                                                                                                                                                                                                                                                              237 GQIVVTGGNDAKK--TSL--YDSSSDSWIPGPDMQVAPGYQSSATMSDGRVFTIGGSWSG 292
                                                                                                                                343 GSVEQAGESTAMNWYYTSGSGDVKSAGKRÝSNPGVAFDAMOGNAVMYDAVKGKTITFGGS 402
                                                                                                                                                                                                                                                             293 GVEEKNG-EVYSPSSKTWTSLPNAKVNPMLTADKQGL-----YPSDNHAWLFGWKK 342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SUBCELLULAR LOCATION: CYTOPLASMIC TISSUE SPECIFICITY: HIGHLY EXPRESSED IN BRAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               THE BRAIN CELLS
                                                                                                                                                                                                  GLKTLNTVECYNPKTKTWTVLP-----PMST-HRHGIGVTVLEGPIYAVGGHD----GWSY-569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    81;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               h 4.1%; Score 142; DB 1; Length 751; Similarit; 24.8%; Pred No. 0.097;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1050044
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative 36; Mismatches 126;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    751 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Actin-binding;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KFLCHREPEAT
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955
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KELCH 2.
KELCH 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KELCH 6.
, berasinan Arakarkarkarkar
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Usage by and for commercial
                                                                     ----ALNGKLYSVGG- 610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    84; Gaps
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DOMAIN SEQUENCE

1151

1200 AA; 118587 MW; ERBEAD4BEA67ABHO CRC64;

OCTAPRETIDE PERIODICITY

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CEN_PSESY
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J. Mol Bio
-t- FUNCTIO
                                                                                                                                                                                                                                                                                                                                                                                                                    use by non-profit institute. There are no restrictions on use by non-profit institutions as long as its content is in no modified and this statement is not removed. Esage by and for common intitles removes a formation
                           Interpro, IPROGUEUS, ISe_nucleats. Priam; PROUBLE; ISe_nucleation; 51. PRIMIS; PROUBLE; ICENUCLEATN. PROSITE; PSOUBLA; ICE_NUCLEATION; 40.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SUBSTELLULAR FOCATION.

MIETLINE 92:97969; PubMed 252:0825;

Lindow N Editor Consistent of the Consistent of A G , Principoulos N T , Girs D ;

Lindow Lization of the nucleation activity and the iceC gene product in Freedomonas syrindae and Escherichia coll.";

Rol. Plant Microbe Interact 2:262:272(1989)
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Bacteria: Protechacteria: gamma subdivision: Eseudomonadaceae:
                                                                                                                                                                                                                                                         PIK; A24405; A24405.
                                                                                                                                                                                                                                                                                                                                                                          of send an email to licenseeisb sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                         entities requires a license agreement (See http://www.isb.sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         this SWISS-PROT entry is copyright. It is produced through a collaboration between the SWISS Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Kajava A.V., Lindow S.E.; "A model of the three dimensional structure of ice nucleation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MUDILABORYSECTED: EmpModrasepers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-JAN-1988 (Rel. 06, Created)
01-JAN-1998 (Rel. 06, Last sequence apdate)
20-AUC-2901 (Rel. 46, Last annotation apdate)
ICE MUCLEATION PROTRIN.
Ice nucleation; Repeat;
                                                                                                                                                                           PDB; 11NB; 31-0CI-93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "Physical and ignocional repetition in a bacterial ice nucleation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Green R.L.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3D-SIRUCTURE MODELING OF 490-535.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              518
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        711 ----YDGQ----TYLNIMESYDPQIN 728
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FUNCTION: ICE NUCLEATION PROTEINS ENABLE BACTERIA TO NUCLEATE CRYSTALIZATION IN STEERCO-SLED WATER.
SUMCELLULAR LOCATION: OUTER MEMBRANE.
SUMCELLULAR LOCATION: OUTER MEMBRANE.
COTAPRITUDE A-G-Y-G-S-T-L-T; FURTHER ON A 16 RESIDUE AND A COTAPRITUDE A-G-Y-G-S-T-L-T; FURTHER ON A 16 RESIDUE AND A REGIONAL 48-RESIDUE FEETODICITY IS SUFFERIMPOSED.
MISCELLANEGUS: A SIRUCIURAL MODEL IS SUGGESTED IN WHICH THE ICE HISCELLANEGUS: A SIRUCIURAL MODEL IS SUGGESTED TO THAT OF ICE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SIMILARITY: BELONGS TO THE BACTERIAL TOE NUCLEATION PROTEIN
                                                                                                                                                                                                                      11NA; 31-OCT-93.
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                                                                                                                                                                                                                                                                                                X03035; CAA26837.1; -.
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   Outer membrane;
   3D-structure
                                                                                                                                                                                                                                                                                                                                                                                                                                                   and for commercial
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RESULT 7
AIDA_ECOLI
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Best Local
                                                                                                                                                                                ©03155,
01-JUN-1994 (Rel. 29, Created)
U1-JUN-1994 (Rel. 29, Last sequence update)
01-JUN-1994 (Rel. 29, Last annotation update)
ADHESIN AIDA-I PRECUPSOR.
SEQUENCE FROM N.A., AND SEQUENCE OF 50-56
                                                                                                              Plasmid pIB6.
                                                                                                                                                                 AIDA-I
                                                                                                                                                                                                                                                                                                     AIDA_ECOLI
                                         NCBI_TaxID 562;
                                                                  Escherichia
                                                                                        Basteria, Proteobacteria;
                                                                                                                                        Escherichia coli.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                      562 ISTESSISKASLIPYGTATHTVNTDQPRIPLTITNNGGNSYSFQVPSDSGVALPGY 617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     713 GSNSSLIAG----YGSTQTAGEKS-ILTAGY-----GSTQTAQE--RTSL----VAGYGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FULL THIGHVENDOGLOGLOGLOTINHFLAGTELENYTY FUSNONLATERITETSTOSVKVGGRIT
                                                                                                                                                                                                                                                                                                                                                                                                                             757 TST-AGYSSSLIAGYG-STQTAGYES-----TLTAGYG---STQTAQENSSLTTGY 802
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   959
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    51
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GSTLTAGYGSTGTAGADSSLTAGYGSTQTSGSESSLTAGYGSTQTAQQGSVLTSGYGST- 597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TTSSWDESTGTVSDPTVTVTKHEMPOPGTSMDCINGQTVVTOGNDAKKTSTVDSSSDSWTP-262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PPHTYTIDMKTTQNVNGLSVLPRQDGNQNGWIGRHEVYLSSDGTN----WGSPVASGSWF 106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAAPVNTLPVTTPQNVQTATYGSTLSGDNHSRLIAGYGSNETAGNHSDLIAGYGSTGTAG 217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGYGSTGTAGSGSSLIAG---YGSTQTASYESMLTAGYGSTQTAREHSDLVTGYGSTSTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TAGOPEGIPEEDSTPVFTPEIYVPEODTFYK----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      YOURDANDINAHITTLEEGTSPHTVFASNGLYFARTF-HTSVVLP------DGSTFI 454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               YGSTOTAOFGSNIJAGYGSTGTAGADS-SLIAGY--GSTOTSGSESSLTAGYGSTOTARE 538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WTSLPNAKVNPMLTA--DKQGLYRSDNHAWLEGWKKGSVFQAGPSTAMNWYY------ 358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QTSCSDSALTAGYGSTQTAQEGSNLTAGYGSTG-----TAGSESSLIAGYGSTQTS---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADST--TKYSNFETRPAPYVRLVAITEANROPWTSIAEINVEQASSYTAPOPGLGRWGPT 164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GSESSELFACYGS (OTAQEASTITACYCSTATAGVDSS) TAGYGSTQTSG----SESALTAG 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -DSSLIAGYGSTQTSGGD----SSLTAGYGSTQTA-----QFGSNLTAGYGSTGTAGS--314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SDSWLVAGYGSTQTAGGDSALT------AGYGSTQTAFFGSNLTAGYGSTGTAGS--
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sal Similarity 22.1%;
158; Conservative 87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -QTAGAASNI-TTGYGSTGTAGHESFILAGYGSTQTAGHKSILTAGYGSTQTARDGSDLI 655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ----TSCSCDVKSAGKEQS-----NEGVAPDAMOGNAVMYDAVEGETITEG-GSPD-404
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -DSSLIAGYGSTýTSGGDSSLTAGYGSTÝTNÝEGSNLTAGYGSTGTAGVDSSLIAGYGST 373
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                                                                                                                                                                                                                                                                                                     STANDARD;
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Best local Similarity 20.7%; Frod. Mc. 0.19.
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**AlDA-1, the adhesin involved in diffuse adherence of the diarrhoeagenic Escheristia III ELLAL, 2787 (2128.H27), is synthesized via a precursor molecule.";

**MOLEMETRIC STRUCTURE OF DIARRHEA-CAUSING ENTERN MEGESSARY FOR THE DIFFUSE ADHERENCE OF DIARRHEA-CAUSING ENTERNEATHOGHNIC ESCHERICHIA COLITO EPITHELIAL CELLS.
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PIR; S28634; S28634.
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600 VTGINIKHGGIIKVDSGASALNIALSSGGNLEISTGAILEELIIMAALSVSQNHASNIVL 659
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15-JUL-1998 (Rel. 36, Last annotation update)
PTI-TYPE PROTEINASE PRECURSOR (PC 3 4 21 %) (LACIOCEPIN) (CELL WALL-ASS-TACHT SEFINE PROTEINASE) (LP151).
PRINIS; PR00723; SUBTILISIN.
PKOSITE; PS00136; SUBTILASE_ASP; 1.
PROSITE: PS00137; SUBTILASE_HIS; 1.
                                                          Fig., FFUU/46, Gram_pos_anchor; Pfam; PF02225; PA; 1. Pfam; PF00082; Peptidase_S8; 3.
                                                                                                                            InterPro; IPRO01899: Gram_pos_anchor
InterPro; IPR003137; PA.
InterPro; IPR000209; Peptidase_S8.
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                                                                                                                                                                                                                                       EMBL; M83946; AAA25248.1; -. PIR; B44858; B44858.
                                                                                                                                                                                                                                                                                             entities requires a license agreement (See http://www.istesib.ch/announce/or send an email to license@isb-sib.ch).
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paradasei NCDO 151.",
                                                                                                                                                                                              MESCES; SUB.019;
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--- CATALYTIC ACTIVITY ENDOPERTIDASE ACTIVITY WITH VERY BROAD
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SUBCELLULAR LOCATION: TYPE I MEMBRANE PROTEIN, CELL WALL,
SIMILARITY, RELOWGS TO PEFILDASE FAMILY SE, ALSO KNOWN AS THE
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SUBTILASE\_SFR: 1

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Hest Level Similarity 19.18;
Matches 144; Conservative 8
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                                                                                                                                                                                HIQULKHEDIKVALIAHITILIKHWAGSUÇISEATIKVIG IVSSDIKTYNVGDIVAAL 1256
                                                                                                                                                                                                                                                                                                                                                                     GTYTESGITERAAVSGITTIAAQGKEHLINITYLAAINSELASMAVINALYAAQVULYADKA 1198
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CHARGE RELAY SYSTEM (BY SIMILARITY).
CONSERVED IN GRAM-POSITIVE COCCI SURPAÇE
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CYTOPLASMIC (FOLLMILAL).
CHARGE RELAY SYSTEM (BY SIMILARITY)
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Cloning and expression of an isovaleryl pepstatin-insensitive carboxyl proteinase gene from Xauthomonas sp. T-22.";
1. Biochem. 120:564-572(1996).
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                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -:- SUBCELLULAP LOCATION: SECRETED.
-:- PDM: AUTOCATA/ATICALLY PROCESSED.
-:- SIMILARITY: BELONGS TO PEDETIMAGE FAMILY S53.
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SM00089; PKD; 1.
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         use by non-profit institutions as long modified and this statement is not removed.
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                      the European Bioinformatics Institute. There are no restrictions on
                                                                                                                                                                                                                                           This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
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                                                                                                                                                                                                                                                                 Q25386;
01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
20-AUG-2001 (Rel. 40, Last annotation update)
BETA-SCRUIN.
                                                                                                                                                                         E.karyota, Metasoa; Arthropoda; Chellectata, Mcrostomata; Xiphosura; Limulidae; Limulus.
Way M., Sanders M., Chafel M., Tu Y.H., Knight A., Matsudaira P.;
                               MEDLINE-95019249; PubMed-7593276;
                                                                                                                                             NCH1_Tax1D=6850;
                                                                                                                                                                                                                                     Limitus polyphemus (Atlantic horseshoe crab).
                                                                                                                                                                                                                                                                                                                                                                                                                        SCRB_LIMPO
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                                                                                        SEQUENCE FROM N.A.
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                                                           TISSUE=Testis;
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21.8%; Fred. No. 0.
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PROSITE: PS50294; WD_REPEATS_REGION; 1.
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"A post responsible for espectative insempatibility in the fungus Podospora anserina encodes a protein with a GTP-binding motif and beta homologous domain.";
Gene 162:135-139(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   15-XXI-1948 (Rel. 36, Created)
15-XXI-1948 (Rel. 36, Last sequence update)
15-XXI-1948 (Rel. 40, Last sequence update)
VEGEVATIBLE INCOMPATIBILITY PROTEIN HET-E-1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTP-binding; Repeat;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRINTS; PR00320; GPPOTETNBRPT.
SMART; SM00320; WD40; 10.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            InterPro; IPR001680; WD40.
Pfam; PF00400; WD40; 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMPL: 128125; AAA85775.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A. MEDITINE-96009891; PubMed=7557402;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sordariales; Lasiosphaeriaceae; Podospora.
NCK1_TaxID=5145;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Podospora anserina
                                                                                                                                                                                                                                                                                                                                                                                                                                       REPEAT
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A4ČDUJASAVAS ..... IASSONO 536
                                                                                                                                    862 DK----TIKIWDTASGTGTQTLEGHGGSV--W---SVAFSPDRER----VASGSDDKT 906
                                                                                                                                                                                                  802 APTESMIKKIEKKEEPGWISTISVVFAFWNACTOTLFRHESSVISVAFSALROJFVASGSD 861
                                                                                                                                                                   49 PKPPHTYTIDMKTTQNVNGLSVLPRQDGNQNGWIGRHEVYLSSDGINWGSPVASGS---- 104
                                                                                                                                                                                                                                    R ADIGSAIDP-----NNWAVTODSAQS-GNEONKAIDGNKDTEWHTEYGANG------D 48
                                                                                                 ---WFADSTTKYSNFETRPARYVKLVAITEANGQPWTSIAE---INVFQASSYTAPQPGL 158
                                                                                                                                                                                                                                                                        138, Conservative
                               GRWGPTIDLPIVPAAAAIEPTSGRVIMWSSYPNDAFFGSBGGITHTSSWBBSTGIVSDRT 218
                                                               IKIWDAASGTCTQTLEGHGGR-VQSVAES-PDGQRVASGSDDHTIKIWDAASGTCTQTLE 964
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Fu: 11.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              307
                                                                                                                                                                                                                                                                                        4.0%; Score 138; DB l; Length 1356; 20.5%; Prod No 0.37;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WD repeat.
                                                                                                                                                                                                                                                                                                                                                           149765 MW;
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P87061;
15-JUL-1999 (Ref. 38, Greated)
15-JUL-1999 (Ref. 38, Last sequence update)
15-JUL-1999 (Ref. 38, Last sequence update)
20-AUG-2001 (Sed. 40, Last secondation update)
11P ELONGATION ABERKANT ENTEIN I (CELL POLARITY PROTEIN TEAL).
1EAL OR SPCC1223.06.
                                                                                                                                   Wedler H., Wambutt P. Lybo M. Eajandream H.A. Barrell B.G.,
submit and ("PR 1998) * 75. FMECTALED ACT AS AN END MARKER,
FUNCTION. SHILL FOLGALLY HOSTHIN. ARY ACT AS AN END MARKER,
DIRROTHON. THE GROWTH MACHINGAY TO THE CELL POLES. MAY ALSO
HYPERCY M. DESTUBULAE CROAMICATION, AFFECTING THE MAINTENANCE OF
A SINGLE CENTRAL AXIS.

1. SUBGELULUAR LOCATION. PRESENT AT BOTH POLES OF THE CELL THOUGHOUT
THE CELL CYCLE WHETHER THEY ARE GROWING OK NOT. LOCATED AT THE
ENDS OF MICROTUBULAE SCHOOL THOWARDS THE CELL POLES. AN INFACT
MICROTUBULAE SKELET W. LS PECULAED TO MAINTAIN THE GOATION AT THE
CELL TIPS; ON THE OTHER BAND, A NORMALLY GROANIZED ACTIN
CYTOSKETTYON IS NOT PROTUPED.
between the Swiss Institute of Bioinformatics
   This SWISS-PROF entry is copyright. It is produced through a collaboration -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mata 1., Nurse P.;
"teal and the microtubular cycuskeleton are important for generating
global spatial order within the rission yeast cell.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Schizosaccharomyces pombe (Fission yeast).
Eukaryota: Fundi: Ascomycota: Schirosaccharomycetes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MFD: INF-97944085; PabMc: #5200612;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               219 VIVTKHPHISTISMISHISIVATISHKAKKISINISBBESWIEGERMZVARGVQSSAIM 378
                                                                                                         SIMILARITY: CONTAINS 5 KELCH REPEATS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "IPTETÓSVEVNORITISTISSISEANTINENTATHTVENTDÆRKIFL ILIMRUGUSTSEQ 605
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SE PE PACE

01:NOV 1997 (Rel. 35, Created) 01:NOV-1997 (Rel. 35, Last sequence update) 01:NOV-1997 (Rel. 35, Last annotation update) HYPOTHETICAL 133.3 KDA PROTEIN F40H6.5 IN CHROMOSOME III. F40H6.5. YPX5\_CAREL

YPX5\_CAEEL Q09277;

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577 KK 578
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                                                                       528 SSHSMEQGNGSVASANNAQSEAATRSI------NSISEVSEVREFEQSSVKTVDE 576
                                                                                                         531 --NYLYDSNGNLATRPKI-TRTSPÓSVKVGGRITISTDSSISKASI IRYGTATHTVNTDÓ 587
                                                                                                                                                                                     480 QETEYKQNENSIVKAYHSISLLLERGEVENGG--GGLOGLOTINHEDAQ-----IFIF 530
                                                                                                                                                                                                                                                             420 GEPGTSPNTVFASNGLYFARTFHTSVVI.PDGSTFITGGOPPGIPFEDSTPVFTPEIYVPE 479
                                                                                                                                                                                                                                                                                                     400 NSTGNTN-----PSAFNG------LLTSSRIPSYNGSKVRSTSH---- 432
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                227 DSPWELAS-VVNDPPPARAGH-----VAFTFSDKLYIFGGTDGANFFNDLWCYHDKQSA 279
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    204 TSSWDPSfGIVSDRTVTVTKHDMFCPGISMDGNGQIVVTGGNDA----KKTSLYDSSSDS 259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          174 VWQKANASGARPS-GRYGHTISC----LGSKICLFGGRLLDY--YFNDLVCFDLNNLNTS 226
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                                                                                                                                                 ----RSNSSSILQPSYNLNSHSSURRNINDUDQSSLNSQQLSNQAKAQGEVSPTLSFVP
                                                                                                                                                                                                                         ---PSKWY16SSNSKF--NTRHW11----S1PVSGRASNULP----SPV------VPT 472
                                                                                                                                                                                                                                                                                                                                       SGSGDVKSAGKKQSNKGVAPDAMOGNAVMYDAVKGKILTFGGSPDYQDSDATTNAHIITL 419
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                                                                                                                                 EISTTQRPTSP-1LTSGATSTSSSTESTTT----SPTTSTTTTLPPTTT-----P-901
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| sм0э276; GLECT; 1.
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nilarity 20.4%; Pred. No. 9.4%;
Conservative 95; Mishatches 279;
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                                                             -FTPELYVPEQDTFYKQNPNSIVRAYHSLSLLLPDGRVFNGGG- 512
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"Comparing the predicted and observed properties of proteins encoded in the genome of Escherichia coli K-12."; Electrophoresis 18:1259-1313(1997).
[6]
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRAIN-K12 / MG1655;
MEHLINE-9742641; PubMed-9278503;
MEHLINE-9742641; PubMed-9278503;
MINISTER F , Plunkett G III, Bloch C A., Perna N.T., Burland V.,
Biley M , Collado-Vides I , Glasner I D , Pode C K , Mayhew G.F.,
Gregor J., Davis N.W , Kirkpatrick H A , Gooden M A , Pose D J.,
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                                                                                                                                                                                                                                                                                                                                               Calirey P., Owen P.; "Purification and N-terminal sequence of the alpha subunit of antiqen "purification and N-terminal sequence of the alpha subunit of antiqen 43, a unique protein complex associated with the outer membrane of Escherichia coli.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRAIN ML 308 225;
Henderson I.R., Owen P.;
Sub-Citrod (TAN 1997) to the EMPL/The Bink/Edital databases
                                                                                                                                                                      NEFA:N-K12 / EMG2;
MEDLINE~97443975; PubMed~9298646;
                                                                                                                                                                                                                                          SEQUENCE OF 53-63.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "A 460 kb DNA sequence of the Escherichia coli K 12 genome corresponding to the 40.1 50.0 min region on the linkage map."; DNA Pes. 3:379-392(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE=97251358; PubMed=9097040;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "The complete genome sequence of Escherichia coli K-12.";
Science 277-1453-1474(1997).
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                                                                                                                                         Robison K., Church G.M.;
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Lasty Match.

4. 4: Sobject NS.5: LB 1: Legath 1089; Pred: No. 0.3;
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Search completed, January 3, 2002, 09:19:33 Job time: 264 sec

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Result
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13: sp_verrons:*

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O43098 gibborella
O91448 arabidopsis
O91448 arabidopsis
O91617 streptomyce
O01772 phanorochae
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	Db 110 LWDPLANTIT - PIPAPPENIFCAGHSFLEDGRILITGGHVDSHVGVPDAIIENPKSGAW 167	
	CY 206 SWDESTCIVSDETVTVTKHDMEGESISMFCNAGIVVISSNBAKKISLYUSSUSW 260	
	Db 59 SSGLAVAQPISEVGRWSPLMSWPI-SATHAHLLHSGKVMFFGEFDEGTQSP	
	Qy 148 ASSYTAPOP GEGEWGPTIPLPIVPAAAAIEPTSGPVLMWSSYFNDAFESSPGSIILIS 205	
24;	Matches 139, Conservative 81; Mismatches 197; Inders 83; Gaps	
	Query March 12.2%; Score 417.5; DB 2, Length 526;	
	NO STECHNOL 525 AA) 57830 MW; B3708AB0ID2ADCBD CR064;	
	Ptam: PF01344; Kelch; 5.	
	J. Bacteriol. 178:6706-6713(1996).	
	RT fbfA dene encoding a polypeptide homologous to chitin synthases ".	
	"Stiakowski B., Pospiech A., Neumann B., Schairer H.U.;	
	RX MEDLINE=97113426; PubMcd=8955286;	
	STRAIN=D	
	KP SEQUENCE FROM N.A.	
	" πγκοσοσατίας: Cystopacroninoae; Cystopactoranoae; Stigmatolia. Οχ ΝΟΒΙ Taytopan:	
	FBFB GENE.	
	SIMILARITY TO GALACTOSE OXID	
	01-JUN-2001 (TrEMBLrel.	
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01-MAY-2003 (TrEMHLrel. 13, Last sequence update)
01-JUN-2001 (TrEMHLrel. 17, Last annotation update)
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                                                                                                                            554 VKVGGRITIST--DESISKASLIPYGTATHTVNTTDGRPIPLTITNNGGNSYSFQVPSDSG 611
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                                                                                                                                                                                                                                                                                                       QASILPDDSVLVSGGSEDYRG---RGDSNIIQARLYHPDTNEFEQVADPLVGRNYHSGSI 506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                *TARMWYYTSOSOTVESAORFGONFGVARBAMOGNAVMYDAVKGKILTFOGSPUVQDSDA 410
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Q9FYG4;
01-MAR-2001
01-MAR-2001
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SLOUENCE PROM N.A.

Johnson Hopson C., Brooks S., Bachlor E., Chao Q., Khan S., Kim C.,

Shinn P., Altafi H., Bei Q., Chin C., Chion J., Choi E., Conn L.,

Shinn P., Altafi H., Bei Q., Chin C., Chion J., Choi E., Conn L.,

Corway A., Contales A., Hansen N., Howing R., Koo I., Lam H., Lee J.,

Palm C., Li J., Liu A., Liu K., Hins S. Makharsky N., Nquyen M.,

Palm C., Pham P., Sakano H., Schwartz J., Southwick A., Thaveri A.,

Trriumi M., Vaysborg M., Ya C., Poderspiel N.A., Theologis A.,

Ecker J.R.,
                                                                                                                                                                                                                                                                                                                                                                              Arabidopsis thaliana (Mouse-ear cress).

Eukaryorn; Viridiplintae; Streptophyta; Embryophyta; Tracheophyta;

Spermatophyta; Magnoliophyta; eudicotyledons; core oudicots; Rosidae;

eurosids II; Brassicales; Brassicaceue; Arabidopsis.
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01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
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Submitted (MAY-1997) to the EMBI (SenPank Open databases
                     Ecker J.R.
                                                                                                                                                                                                                                                                                                                                                       NCRU_TaxID 9792;
                                            SEQUENCE FROM N.A.
                                                                                      Submitted (MAY-1997) to the EMBL/GenBank/INDBJ databases
                                                                                                                                  "Grantin sequence for Anabidopsis thaliana RAC FIN21 from chromosome
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QMIRO3 PRFLIMINARY DFT: 547 AA.
CMIRO3;
01-00T-2000 (TrEMBLrel. 15, Greated)
01-00T-2000 (TrEMBLrel. 15, Last sequence update)
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Submitted (AGG-25000 to the EMBG STATEGER EMBL ACCULT);
EMBL, ACCULTO: AGGREGAT: 67775 MW. 6AA33F8866699FAD CRC64;
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Submitted ("PR 1997) *
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                                                                                                                                                                                                                                                                                                                                                              501 VYN-GVPSVGEWIOI 514
                                                                                                                                                                                                                                                                                                                                                                                                                                              623 MNSAGVPSVASTIRV 637
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ---ASLIRYGTATHIVALDJRKIPL-- TLINNGGNSYSFQ--VPSDSDVALLGYWMLFV 622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PNEWFILENENNELSOMEKELAEST FREVYHSTATAT PINKVI VOOSN-----INNOVOE 482
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SAKEVWE LEIMONGEWANDLILLENGELIEUWARDSSOWHLAPE 427
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Check R. Shing P. Brooks S., Rochlet E. Chao Q. Tobnson-Hopson C. Khan S., Kim C., Altafi H., Bei B., Chin C., Chiou J., Choi E., Chi L., 200waj A., Gonzalot A., Harsen N., Howing B., Koo T., Lam B. Lee J. Lenz C. Li J. Liu A., 19 J., 19 S., Mukharsky N., Liu A., 19 J., 19 S., Mukharsky N., Nyuyen M., Palm C., Pham P., Sakano H., Schwartz J., Southwick A., Thaveri A., Toriumi M., Vaysberg M., Yu G., Davis R., Federspiel N., Theologis A., Ecker J., Submitted (Jun-2000) to the EMRI/GenBank/DDBJ databases.

EMMH: ACOUNT 44 AAFN7115.1: -
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Arabidopsis thaliana (Mouse-ear cress).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Submitted (JUN 2000) to the EMBL/GenBank/DDBJ databases.
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512 VKVKIPSSAILAPPGYYMVFVVNQ~DIPSEGLWVKL 546
                                                      606 V----PSDSGVALPGYWMLFVMNSAGVPSVASTIRV 637
                                                                                                                                                                                                                                                                                    500 LLLPPGPVFNGGG-----GLCGDCTTNHEDAQIFTPNYLYDSNCNLATRPKITRTSTQS 553
                                                                                                                                                                                                                                                                                                                                                 334 MLLPDGNVLLINGGSSGTAAWELGREPVLHPDLYHPDKPVGSRFEVQNPSTIPRMYHSIA 393
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                                                                                                                                                                                                                                                                                                                                                                                                     445 VVLPNGST-FIIGGQRRGIPFE-DSTFVFTPEIYVPEQ---DIFYKQNPNSIVRAYHSIS 499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    182 RVLMWS······ ··SYRNDAFEGSPG-GITLTS----SWDPSTGIVSDRTVTVTKHDMF 227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      282 RVFTIGGSWSGGVFEKNGEVYSPSSKTWTSLPNAKVNPMLT-----ADKQGLY-----RS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                117 CSSGGVTPDGTLLOTGGGLDGERKVFLMDPGLONSCDWIEVDNGLAAPPWYAINHILPDG 176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   228 CPGTSMDGNGQTVVTGG--NDAKKTSLYDSSSDS---WTPGPD-MQVARGYQSSATMSDC 281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          58 RVIMYDRTNFGPSNISLPNGACRSSPGDAVSKTDCTAHSVEYDVALNRIRPLTV-QSNTW 116
                                                                                                                                                                       VKVCCR-----ITISTDSSISKASLIRYGTATHTVNTDQRRIPL--TLTNNGGNSYSFQ 605
                                                                                                                TVNYGPVLFLFFTVSGPVKSPVKVTMLFPSFTTHSFSMHQPLLVLDHVISFKLGISKIYE 511
                                                                                                                                                                                                                                TLLRDGRILVGGSNPHAFYNFTGVLFPTELRLEAFSPSYLDTKYSSL--RPSIVDPRPQT 451
                                                                                                                                                                                                                                                                                                                                                                                                                                                           IKNLVLEVLVCGGAPKGSYNI SWPNTFVKALDTCARININDVNPQWIVEKMPRARVMGDM-333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VKG---KILTTFGGSPDYQDSDATTNAHIITLGEPG----TSPNTVFASNGLYFARTFHTS 444
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9. <u>9. E E E E</u>
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Best Local Similarity 24.9
Matches 118; Conservative
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EMBL, Wou7777, AAA17254.;

SEQUEENE S04 AA: 56219 MW: 2009069983A1EE13 CRC64;
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Bokar Juta, Virilly lantae, Streptuph,ta, Embryophyta, Tracheophyta;

Spermatophyta: Magnoliophyta, eddicotyleddus, edre eudicots; Rosid
                                                     of-our 2000 (TrEMBLECL 15, Created) of-our-2000 (TrEMBLECL 15, Last sequence update) of-our-2000 (TrEMBLECL 15, Last annotation update) HYPOTHETICAL 60.0 KDA PROFEIN.
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el-MAR-2001 (TrEMBLTel. 16, Last sequence apdate)
el-MAR-2001 (TrEMBLTel. 16, Last annotation update)
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Anabidopsis thaliana (Mouse-ear cress)
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                                                                                                                                                                                                                                                                                                                                                                444 FAMALEMENTIONARI TERGRESPAYEN LARIFFESANIAM POTYMIFYANG-5-1PS 496
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              326 PERF VGGSTILLISTETTERMYHSAATLLKEGRVLVGGSRPHAFYNYTGVLFPfELSLEAF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        158 LAETHDÖGQERKLITTVEMNTDCNLIMFANNKATLLDYVKNIVVKTEPATIGGDPRNY · ·
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        207 WHI STUTYSPHIVIVIKHOMPOFGISMDGNGQIVVIGGN DAK KISLYBSSSDS: WI 261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        386 SPVYLOKEFSNL--KPKIISPEPOSMIKYGINLKLKESVIGEVTTPAKVEMVEPTEETHS

\(\frac{2}{2}\) LT -----ADKQGLY -----RSDNHAWLFGWKKGSVFQAGPSTAMNWYYTSGSGDVKSAGK (47)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ROSNAGVAGGAMGGMAVMY - PROPAGKILIFGGGFDYGDSDATTNAHIITLGEPG 423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ISPNIVFASNGLIFÄKIFHTSVVLEDGST FITGGGKRGIFFE USTPVETPLIYV 477
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                                                                                                                                                                                                                                                                                                                                                                                                                            TLTNNGGN-SYSFOV--PSDSGVALFGYWMLFYMNSAGVPS 630
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GLOGLOTTNHEDAQIF 528
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels 78;
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Submilled (App-2000) to the PMRL/RenBank/RERJ databases
EMBL: AL132960; CABB357.1; -.
Hypothetical protein.
SEQUENCE: 545 AA; 60004 MW; 14745A770BBB5405 CRC64;
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Spermatophyta: Magnoliophyta: wodinolyledoms: more eudicots: Rosidae;
eurosids II: Brassicales: Brassicaceae; Arabidopsis.
HCBL_lax(D-3701;
                                                                                                                                                                                                                                                                                                                                                                     O9SVX6;
01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2009 (TrEMBLrel. 13, Last scheence update)
01-MAY-2000 (TrEMBLrel. 13, Last annotation update)
HYPOTHEFICAL 61.0 KDA PROTEIN.
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Lemcke K., Mayer K.F.X., Quetier F., Salanoubat M.;
Submitted (NOV-1999) to the EMHL/MonHank/DDHJ databases.
Bones V., Rochmann S., Borkova D., Ansorae W., Mewes H.W.,
Mayer K.F.X., Lemcke K., Schueller C., Quetier F., Salanoubat M.;
                                                                                                                                                                                              Arabidopsis thaliana (Mouse-ear cryss).
Bakaryota, Viridiplandac; Stream, Embryaphyta: Fracheophyta;
Spermarophyta: Magnoliophyta; endirotyledons, vote endirots, Kosidae;
eurosids II; Brassicales; Brassicaceae; Arabidopsis.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          498 PSVPPCVGPYPIQCTAPPNCAVSPPGYYMAFAVNQ-GVPSIAPWIRI 543
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                386 KMYHSTANLLPGGKILLAG--
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -AIQGDETTAEILICGGA----QSGAFT-APAIDAPAHGTCGPIVATAADPVWVTEEMPF 327
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -SWEHTEYKENAGEFIGLRIEAFSDEYLSPORAML 440
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          . Appl. Microbiof. 20:111 123(1997).
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SO독특무무무무
                                                                                                                          Query Match
Best Local Similarity
Mutches 131; Conserv
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Hest Local Similarity 97.8%;
Matches 44, Conservative
                                                                                                                                                                                                               Submitted (MAK-2000) to the EMBL/GenBank/DDBJ databases. EMBL; AC012188; AAF43943.1; -. 10HA11434291812E CKC64; SEQUENCE 564 AA, 62764 MW, 10HA11434291812E CKC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Chin C. Chiou J., Choi E., Chung M., Gonzalez A., Howng B., Liu A., Vayshery M., Altrif H., Newsk S., Henhler E., Chao G., Conn L., Conway A., Hansen N., Johnson-Hopson C., Khan S., Kim C., Lam B., Miracha M., Mayjer M., Palm C., Stinn P., Scuthwick A., Cavis R., Ecker J., Federspiel N., Theologis A.:
The sequence of HAN F14(17 from Arabidysis thallana chromosome 1.")
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Epermatophyta, Madnoliophyta, eddicot; Eddons, core eddicots, Hoaid eurosids [1] Brassicales; Brassicaceae; Arabidopsis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-0CT-2000 (TrEMELTE) 15, Created)
01-0CT-2000 (TrEMELTE) 15, Last sequence update)
01-0CT-2000 (FERMELTE). 15, Last annotation update)
F1:L17.20 FEGTEIN.
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NON_TER 45 45
SEQUENCE 45 AA, 4927 MW, 1AA403008523D564 CR064;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q9M9S1
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                                                                                                                                                                                                                                                                                                                                                                                                                                              STRAIN=CV. COLUMBIA; Theologis A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Arabidopsis thaliana (Mouse-ear cress).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ç9M9Sl;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Interpro: IPR002048; EF-hand.
Interpro: IPR000421; FA58_C.
FE-Sile, Fs00018; FF_HAND; FNKNOWN_1.
                                                                                                                                                                                                                                                                 Theologis;
                                                                                                                                                                                                                                                                                    STRAIN-CV. COLUMBIA;
                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                      Submitted (DEC-1999) to
                                                                                                                                                                                                                                                                                                                                                                         STRAIN-CV. COLUMBIA;
                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A
                                                                                                                                                                                                                                                                                                                                                                                                                             submitted (cCl·1999) to the EMSL/GenBank/DDRJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Submitted (OCT-1999) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STRAIN=CV. COLUMBIA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                        Theologis A.;
                                                                                         159 GRWGPTIDLPIVPAAAAAIEPTSG--RVLMWSSYRN-----DAFEGSPGGITLISS-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     57 ICMKTT-UVNGLSVLEF-U-GMONGWIGRHEVILSSDGINWGSPVA 101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 IDMKTTQNVNGLSILPRQDGNQNGWIGRHEVYLSSDGTNWGSPVA
                                                     GFW----DI------LUPSVGISAMHMULLHUNKVVIEDFTDYGPSNVSLPSQTCQNA 88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      751641, AAR94635.1; -.
 WEPST GIVED
                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRELIMINARY;
                                                                                                                                            7.1%;
23.9%;
RIVIVIKHDMFOLGISMBGNOGIVVIG - GNDAKKISIY - 253
                                                                                                                                                                                                                                                                                                                                          the EMBL/GenBank/DDBJ databases
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    Mismatches

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                                                                                                                                              Pred.
                                                                                                                                                             Score 243.5;
                                                                                                                            Mismatches 233;
                                                                                                                                              No. 5.8e-09;
                                                                                                                                                             DB 10: Length 564:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 45;
                                                                                                                          Indels 95; Gaps
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91.44 M
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                                                                                                                                                                                                                                                       6.1%; Score 208.5; DB 2; Length 1498; Bost Jacus Summarity 22.7%; Fred. No. 5.de up, Marches 103; Conservative 52; Mismatches 147; Indels 151;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUEET: FROM N.A. Evidakis J., Vordias G.E. Bouriotis V., Evuhrenne F.G.A., Zoidakis J., Vordias G.E. Bouriotis V., "Parifibation, characterisation and nucleotide sequence of a novel chirobiase from the Antarctic Arthrobacter sp. IAD20."; Submitted (N.V. 1999) to the EMBL/GenBank/DJBJ databases. EMBL, AJ256587, AM57127.1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                InterPro: IPR001540; Glyco_hydro_20. Pram. FF00728) Glyco_hydro_20; 2. FKINIS; PR00738; GLHYDRLASE20.
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1114 LIGETAPNG-PANALLDSKKETFWITKWSSPAG-NEPHSVVEDIGKNYDVTGFEYTQPQ- 1170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SECULINITIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Signal; Hydrolase; Glycosidase, Signal; Hydrolase; 26 PC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Arthrobacter sp.
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11-21-2000 (HEMBIREL 15, List sequence update)

11-10N-2001 (HEMBIREL 17, Last sequence update)

CHIONIASE PRECURSOR (FC 3.2.1.52).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              262 GÖRKERA KOLOS VILELELTÜS THETKITAFVMVOSÄAÉDJAFFKAÁKTTEKTEVAG 319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ŧ
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                                                                                                                           16 VIOTISAUSSNECHKALDSNKOLFWEGEYGANGDEKE SETYTTEMKTTONVNGLSVLPROD 75
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Stover C.K., Pham X.-Q.T., Erwin A.L., Mizoquehi S.D., Warrener P.,
Blickey M.J., Brinkman F.S.L., Hufnayle W.O., Kowalik D.J., Lagrou M.,
Garber R.L., Geltry L., Tolentho E., Westbrock Wadmun S., Yuan Y.,
Garber R.L., Golter S.N., Folger K.R., Kas A., Larbig K., Lim R.M.,
Smith K.A., Spencer D.H., Wong G.K.-S., Wu Z., Paulsen I.L.,
Smith K.A., Spencer D.H., Wong G.K.-S., Wu Z., Paulsen I.L.,
"Complete genome sequence of Pseudomonas acruginosa PAO1, an
opportunistic pathogen.";
Maitic 406-464-464 (2006). 1: -
InterPro: IPR001443; Hemlysn_Ca_bind.
InterPro: IPR001443; Hemlysn_Ca_bind.
InterPro: IPR001443; Hemlysn_Ca_bind.
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Q912M3; 91-MAP-2001 (TrEMBLrel 16, Created)
01-MAR-2001 (TrEMBLrel 16, Last sequence update)
01-JUN-2001 (TrEMBLrel 17, Last annotation update)
PA1874.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       117: SHIREKTERYHIYISENTTDEGTKVASGSELEVASEPÇVI PIAGRKVEPVVKLYGINSI EQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PROSITE; PRO0313; CABNONGRPT.
PROSITE; PRO0012; PHOSPHOPANIETHEINE; UNKNOWN_1.
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                                                                         504 APNAPYVEPSNGSELSGTAEPGSSVT-LIDGNGNPIGQTTADANGNWSFIPSIPLPDGIV 562
5
                                                                                                                                                  3 APIGSALPRNNWAVTCDSAQSGNECNKALIXHKDTFWHTFYGANGD------PKP---- 51
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                                                                                                                                                                                                                                                                        Similarity
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                                                                                                                                                                                                                               85, Mismatches 264,
                                                                                                                                                                                                                                                                    Score 201; DB 2;
Pred. No. 3.8e-05;
                                                                                                                                                                                                                                                                                                                                                                                                                                               ] <546AFAB2C4B899 CRC64
                                                                                                                                                                                                                                                                                                                     DB 2; Length 2468;
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                                                                                                                                                                                                            Gadry Match
Best Local Similarity
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                                                                                                                                                                                                                                                                                                             SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q01773
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eskaryota, Famgi, Basidinayenta, Hymenom, wee
Aphyllophorales, Corticiaceae, Phanerochaete.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-NAV 1996 (FrEMBLrel. 01, Created)
01-NAV-1996 (TrEMBLrel. 01, Last sequence update)
01-AUG 1998 (TrEMBLrel. 07, Last unbotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Parkhill J., Barrell B.G., Rajandream M.A.;
submitted (JJL-1958) to the EMBL/Contack, NOBE databases.
[3]
                                                                                                                                                                                                                                                                                   SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A. Kersten P , Witek C , Vanden Wymelenenberg A , Cullen D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CLYCXAL OXIDASE PRECURSOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         001773;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1332 YAAAAEMRVY-------GVPVDLP 1348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                127% OPNGRVADYEVAVSDDGRAW-TTVATGTLKDVPRTQRVSEDRVRASYVRETALDALNGQR 1331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bypothetical protein.
FEGURNCE | 181 AA: 144984 MW; 5419FEFFCDENSSID CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "A set of ordered cosmids and a detailed genetic and physical map for the 8 ML Streptomyces coefficient A?(2) chiomosome."; Mol. Microbiol. 21:77-66(1996).
EMHH: AL031155; CAA20079.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE-97000351, PubMed-8843436,
                                                                                                                                                                                                                                                                                                     NIVHU
                                                                                                                                                                                                                                                                                                                                                     J. Bacteriol. 0:0-0(0).
EMBL: L47287; AAA87595.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID-5306,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Phanerochaete chrysosporium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          kedembach M _ Kieser H M , Demapaire D , Fichmer A , Cullum J.,
Kinashi H., Hopwood D.A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STRAIN-A3(2);
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HSSP; Q01745; 1GOF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                    248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               137 WISIAEINVEQASSYTAPOPGLGRWGPTIDLP 168
                                                                                     195 FOSPGOITETSSWEPSTGIVSPRIVITATKHEMECPGISMEGNOGIVVIGGNEA------ 247
                                                                                                                                                          139 SIAETHVEQASSYTAP --- QPGLGEWGETIFLFIVEAAAA1EFTSGKVLMMSSYRNDAF 194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      hes 50;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      17 TODSAQSGNEONKATOMKOTEWITTEYGANGOPKPPHTYTTDMKTTQNVNGLSVLPRQDG 76
                                                    F2 OFTNASSIWAALWAADISIVKELSVIII---USETASAALLSNAIMVSMAATPAATAADIVA 118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   77 NONGWIGEHEVYLSSDATNWGSPVASGSWEADSTTKYSNEETEPARYVELVALTEANGOP 136
                                                                                                                          3 SLLAVVSLAAATLAAPAASDAPG-WREDLKPNLSGIVALEAIVVNSSLVVIFDRATGDQP 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                   559 AA; 59140 MW; 5145FA1E429B8E68 CRC64;
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                  RKIISLYNSSSSSWINGPIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative 22; Mismatches
                                                                                                                                                                                             Conscivative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRELIMINARY;
                                                                                                                                                                                                                                                                                                     23
                                                                                                                                                                                                                                                                                                 552
522
                                                                                                                                                                                           5.2%, Score 179.5, SB 3, Length 559;
21.6%; Pred. No. 0.00016;
ative 83, Mismatches 228, Indeis 161, Capa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5.7%; Score 196; DB 2; Length 1361;
32.3%; Fred. No. 3.8c-05;
                                                                                                                                                                                                                                                                                                 POTENTIAL.
GLYOXAL OXIDASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Hymetomy retes. Bymenomy cetidae,
                  - --- MOVAPRYLISSATMSINGPUPTITGSW 290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           559 AA
Indels
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Mar In 1 . Therety
                                                                                                             Outerly Match
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UT-NUV-1596 (TEMMHIREL 01, Created)
UT-NUV-1596 (TEMMHIREL 01, Last sequence update)
UT-NUV-1598 (TEMMHIREL 08, Last annotation update)
UTY-VAAL -XIDASE (GLXI) PRECURSOR (GLXI).
                                                                                                                                                                                                                                                                                                                                                                                   "Cloning and characterization of cDNA enceding glyoxal oxidase, Hz 2-producing enzyme from the lighin-degrading basidiomycete Prancerochaete chrysosporium."; Pract Nati Acad. Sci. U.S.A. 90:7411-7412(1993).
                                                                                                                                                                                                                                                                  Signal: Peroxidase.
                                                                                                                                                                                                                                                                                                                              EMBSC: L17286; AAA87591.1; -
EMBSC: L18991; AAA83747.1; -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE OF 1-529 FROM N.A. METHORITY OF 3-548292, ELLIMOND 8-346254,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A. Kandon Wymolenesberg A , Callen B _{\rm c}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Aphyllophorales: Corticiacéae: Phanerochaete.
Nº81_lax10=5306:
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                                                                                                                                                                                                             SECRETE
                                                                                                                                                                                                                                            NIVE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Kersten b., Gullen D.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukarysta: Pundi:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Phanerortaete chrysosporium.
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134 STARINVEGASSYTAP----GEGLGRWGETTHREIVEAAAAIEFTSGEVLMWSSYENDAF 194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4 ** #APHSSAFLVEMESSISADEKSLTETAPENGEVEPPGEAVVELTIDDVTSPGERVMMCSG 552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     440 ILEPPEMERSHPALLIMP------EKIKEGGKVEVPITTESIN.KASKVQVALMDLGESS 492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      486
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        380 PISKAISKAIKKAITTI FRAMTHENDOOTATIOORAHTAKATITTOPPOTROTSELBIE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Barteriol. 0:0-0(0).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EHMLEARMMFELVHVENROTETINGAGIGFAALSAVAUFVGNSNADHPVLTPSLYTPDA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FALEDSTVFIVANNOSIIY-----DIE-----KNTETILPDIPNGVRVTNPIDGSAIL 265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FOWKKUSVEQAGPSTAMNWYYISGSGDVKSAGKRQSNRGVAPD------AMCGNAVM 388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPSINGATRIFFECAS --- PSGDGCTLFEDPATVHLLEERWYPSSVRIFDGSLMIIGGS - 174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TEYKONEN-----SIVRAYHSISILLEDGKVENGGG-----GLCGDCTENHEDAQ 526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ----HVIJTFYNVDPANSFEEFPSKEQTPRPSAFLERSIPAN---LFPF-----A 217
                                                                                                                                                                                                          559 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DAVKGKILTFCGSPDYQDSDATTNAHLITLGEPGTS------PNTVFAS--- 432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRELIMINARY;
                                                        Tuber Fruit Lie
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Busidiomycota; Hymenomycotes; Hymenomycetidae;
                                                                                                                                                                                                             59167 NW:
                                                     5.2%; Score 179.5; DB 3; Length 559;
21.6%; Pred. No. 0.00016;
direction 33; Mismatches 228, Indels 161
                                                                                                                                                                                                                                                                         7
                                                                                                                                                                                                                                         POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRT;
                                                                                                                                                                                                             9245FA19E19PPE65 CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     559 AA
                                                           ) a
(f)
(g)
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                                                                                                                                                                                                                                                                                                                                                                                                       Q9CFL1 PRELIMINARY; PKI; 1441 AA. Q9CFL1, 01-JUN-2001 (IFEMBLIEL 17, Created) 01-JUN-2001 (TFEMBLIEL 17, Last sequence update) 91-JUN-2001 (TFEMBLIEL 17, Last annotation update)
                                         PMBI: APD06376; AAKD5556.1; ...
InterPro; IPR001899; Gram_pos_anchor.
PR05ITE: PS00343; GRAM_POS_ANCHORING; UNKNOWN_1.
                                                                                                                              Meissenbuch J., Wineker P., Mauger S., Jaillen O., Malarme K., Weissenbuch J., Ehrlich S.D., Sorokin A.; "The complete denome sequence of the lactic acid bacterium Lactococcus lactis.";
  SEQUENCE
                                                                                                                                                                                                                                                                                                                               Lactococcus lactis (subsp. lactis) (Streptococcus lactis).
Bacteria, Firmioutes: Bacillas/Clestridiam group: Etreptococcaccae;
                                                                                                                                                                                                                                                                                                                                                                                                  UNKNOWN PROTEIN.
                  Complete proteome
                                                                                                         Genome Res. 0:0-0(2001)
                                                                                                                                                                                                                      STRAIN-11.1403;
                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                    NCBI_TaxID-1360;
                                                                                                                                                                                                                                                                                                           Lactococcus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  433 NGI YEARTEHTSVVI PDGSTETTGGGREGI -----PEEDSI ---PVETPETYVPEQD 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         493 HAFTHSSARLVEMESSISADRKSUPETADPNORVEDPODAVVETUTOVVESDOEPVMOSO 552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               628 VP 629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                440 TEDPPEMERSRPALLTMP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             482 TEYKONPM-----SIVRAYHSISLLLPDGPVFNGGC-----GLCGPCTTNHFDAQ 526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   380 PLGKEISNAGMETTTIPEMYHSTYFLTQQGNEFIGGNNENMNETPPGIPGIKFVSELKIE 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        32] EHMLEARMMPELVHVPNGOTLITNGAGTGFAALSAVADFVGNSNADHPVLTPSLYIPDA- 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  62 LKINGESTWGALWDIDTSTVRPLSVLT---DSFCASGALLSNGIMVSMGGTPGGTGGDVA 118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     + SILAVVSLAAATLAAPAASDAPG-WREDLKPNLSGIVALEAIVVNSSLVVIEDRATGDOP 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ETVNTDQSE[FLTTLTNNGC NSYSEQVPSDSGVALFGYWMLF------VMNSAG 627
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LPLSPPDFIP-EVLVCGGS----TANTSI PSTSI SSQHPATSQCSFIKI TPFCIKAGWQV 320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Y-----DAVKGKILTFGGSPDYQDSDATFNAHITFLGEPGTS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SCOVERNOLVYSI:------SSKTWISLIPNAKVNIMLTADKQGLYRSDNHAWL 337
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RESULT 1 US-02-257-536-2 US-02-257-536-2 Sequence 2. Application US/09257536 Sequence 2. Application US/09257536 Sequence 2. Application US/09257536 GENERAL INFORMATION: APPLICANT: Berka, Randy M. APPLICANT: Be
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30.0 EN LEUR BEARTWISCHENLEVERMEIRERBEVERARMIAWEL ZWEFOSVEGAGESTAMEW 30.0
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TELEFAX: (904) 372-5800
THE EMAINSH FOR SEC 1D NO: 1
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APPLICANT: Hab, Naiming
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APPLICANT: Patti, Joseph
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HTMBRF OF SEQUENCES: 29
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COMPUTER: IBM PC compatible
COMPUTER: 10M PC compatible
COMPUTER: Patentin Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                               PEFERUNTE/TWO KET NUMBER
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2421 N.W. 41st Street, Suite A-1
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Best Local Similarity 21.8%: Pred. No. 0.021;
Matches 124: Comservative 60; Mismatches 168; Indels 216; Caps
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APPLICANI: Misset, anno
APPLICANI: Van der Laan, Jan M.
APPLICANI: Van der Laan, Jan M.
APPLICANI: Louting, Herman B.M.
TITLE OF INVENITON: Mutated bota-lactam acylase genes
NUMBER OF SEQUENCES: 50
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SPERMITHE STOLEM: PC-1015/MS-1008
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         Patentin Release #1.0, Version #1.25 (EPO)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AUTHORS: Haug, ...
AUTHORS: Buckel, P
AUTHORS: Bock, A
THILE: Penicillin acylase from E.coli: unique
THILE: gene-protein realtion.
JOGRNAL, Nucleic Acids Res.
VOLUME: 14
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REFERENCE CONTROL NUMBER: 38,750
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-494-7622
LLLEAX. 415-857-0563
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607 QLVETL-TRWDG-----INLLNDDGKTWQQPGSAILN------VWLTSM 643
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APPLICATION NUMBER:
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                                             283 ···VETLGGSWSGGVFEKNGEVYSPSSKTWTSLPNAKVNPMLTAFKÇGLYFSUNHAWLFGW (44)
                                                                                         559 ILEQKEFLTANQAWDVI------PQTSPQDLNLFLFL--PTLQAA---TSGITQSDPFR 606
                                                                                                                                                                                                                                                                            447 MKAKNWQEWTQQAAKQALTTNWYYADVNGNTGYVHTGAYPDRQSGHDFRI PVPGTGKWDW 506
                                                                                                                                                                                                                                                                                                                       224 HOMEOFOTSMOGNOQIVVTGSMOAKKTSINDSSSESWIFGFEMQVARGYQSSATMSDGB: 282
                                                                                                                                                                                     507 KGLLPFEMNPKVYNPQSGYTANWN---NSPQKDYPASELFAFIWGG-----ADRVTFIDR 558
                                                                                                                                                                                                                              164 TIBLPIVPAAAAIEPTSGRVIMWSSYRNDAFEGSPGBITLISSWDFSPGIVSDETVTVTK 223
                                                                                                                                                                                                                                                                                                                                                                     387 KMLSRFETTTVKNGQAFTFTVWPTVHGNTLQTIQTTQTAYAKSRAWDGKEVASLLAWTHQ 446
                                                                                                                                                                                                                                                                                                                                                                                                                                                               327 HAAGYDVIGNIPFAYPGLVFGHNAVISWAS!AGFGEVELFAEKLSAEKFGYYLHNGKWV 386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        271 IVAQFAQGGANGLAGYPTTSNMWVTGKSKAQDAKAIMV----NGPQFGWYAPAYTYGIGL 326
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FILING DATE: 19910509
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18-APR-1990
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S-od-st: 780-5
Separate 5. Application US/08541780
Puttent No. 5935841
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ALL-WINATONIE: 18-APR-1990
ALL-WINATONIE: 18-APR-1990
ALL-WINATONIE: 18 - APR-1991
NAME: BAR-VENIER PLD., HARHARA
ROGISHATI-H HUMBER: 12,750
BETHERENTER OFF NUMBER: 12,750
IFLEOMBRUHTATION INFORMATION:
IFLEOMBRUHTATION INFORMATION: 415-494-7622
IFLEOMBRUHTATION 415-494-7622
IFLEFAX: 415-857-0663
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AND FANT: CLAX, Wilhelmus J.
AND FANT: CLAX, Wilhelmus J.
AND FALFANT: Van der Laan, Jan M.
AND LUTANI: Van der Laan, Jan M.
AND LUTANI: Van der Laan, Jan M.
IIIILE DE INVINION: MUTATCH betall detall acylase genes
NUMBER SE STAMBERS: 50
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                                                                                      FTANISM: Exebrichia coli
HTKLIVALICH INTENALICH:
AUTHORS: Schumacher, G
AUTHORS: Sizmann, D
                                                                                                                                                                                    Medanie TYPE: protein
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                      ACTHORS:
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IYPE: amino acid
Iopology: linear
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  Penicillin acylase from E.coli: unique
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                        Buck, A
                                          Buckel, P
                                                                     Ванд, Н
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; Patent No. 5646259
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                                                                                                                               GENERAL INFORMATION:
AFFLICANT: Barenkamp, Stephen L.
APPLICANT: St. Geme III, Joseph W
                 CORRESPONDENCE ADDRESS:
Albritton & Horbert
                                                                        TITLE OF INVENTION: Hamophilus Adhesion Proteins NUMBER OF SEQUENCES: 6
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1633 FUNANDOMORESTANDOMORESTANDA LARVO CONTRARIOSTIVATO NVK. 1580
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MEDIEM TYPE: Floppy Hisk
G-HEGIER. LOS ANGAGILLIO
OPERATING SYSTEM: PC-DOCAM: USS
SYFTWARE: Futentin Release #1.0, Version #1.30
***SERENT APPLICATION DATA:
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FILING DATE: 24-MA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Guery Match
Bost Local Similarity 19 3%: Prod. No. 0 084;
Matches 148; Conscrvative 80; Mismatches 271; Indels 267; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEFAX: (415) 398-3249
TELEX: 910 277299
INFURNATION FOR SEO ID NO: 4:
SECHENCE CHARACTERISTICS:
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                                                                                      1259 TVSAKTDNNGKHIVTIDVAEAKVGDGLEKDIDGKIKLKVDNTDGNN------LLTVD 1309
                                                                                                                                                                                                                                                                                 1199 NTISVTKDGISAGNKEITNVKSALKTYKDIQNTADETQDKEFHAAVKNANEVEFVGKNGA 1258
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TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 781-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CLASSIFICATION. 424
PRIOR APPLICATION DATA:
APPLICATION UNDER: US U8/4U9,995
FILLING DATE: 24-MAP-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATTORNEY/AGENT INFORMATION: NAME: Silva, Robin M. REGISTRATION NUMBER: 38,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOFTWARE. PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
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TITLE OF INVENTION: HAEMOPHILMS ADHESTON PROTEINS
NUMBER OF SEQUENCES: 6
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93 GTNWGSPVASGSWFA---DSTTKYSNFETRPARYVRLVAITEANGQPWTSIAEINVFQAS 149
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STRANDEDNESS: unl
TOPOLOGY: unknown
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OPERATING SYSTEM:
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CITY: San Francisco
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GENERAL HIS BEATI'N.

ADFILI'ANI: Propulske Fox, Ann
ADFILICANI: Tumwasorn, Somying
ADFILICANI: Lepine, Guylaine
ADFILICANI: Lantz, Marnity
ADFILICANI: Lantz, Marnity
ADFILICANI: Patti, Joseph
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence ic.
          MEDIAM TYPE: Floppy disk

COMPUTER: TRM FC compatible
OPERATING SYSTEM: FC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
COMPUTED TOTAL ON DATA:
APPLICATION NUMBER: US/08/570,311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Tille of Invention: Cloned Porphyromonas dindivalis Genes
Lile of Invintion, and fiches for the Detection of Derivatorial Dispase
NUMBER of SHOUTHERS: 29
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               447 (GERTS) - - - FILGGORKGIPFEDSII VETPFITVDEC DTFTKONPNSIVPAYHSISII 501
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STOLEN ESTAMBLY ------YTSGSGDVKSAGKEQSNEGVAPDAMCG--NAVMYDAV 362
                                                                                                                                                                                                                                                                                                                                                                                         ADDRESSEE: 24
FILLING DATE.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                             SKILLE MIARCE ALLERING
                                                                                                                                                                                                                                                                                            COUNTRY:
                                                                                                                                                                                                                                                                                                                                                          THY: Gaimesville
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           v. Apprication US/odSJosti
5824791
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Matches 148; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEPHONE: (904) 375-8100
TELEFAX: (904) 372-5800
INPORMATION FOR SEQ ID NO: 10
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FILLINI DATE: 08-SEP-1988
AITOKHEY/AGENT IMFORMATION:
NAME: Whitlock, Ted W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE CHARACTERISTICS:
LEGGIE. 1732 amino acids
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/647,119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CLASSIFICATION: 424
PRIOR APPLICATION DATA:
                                                   1024 GCVYSESFGLGGIGVLTPDNY--
487 NPNSIVPAYHSISILLPDGPVFNGGGGGGGGTTNHFFAQIFTPNYLYDSNGNLATRPKI 546
                                                                                                      434 GLYFARTE --- HTSVVI PEGSTETTGGGRRGIPFEDSTPVETPETYVEE -- QDTFY -- KQ-486
                                                                                                                                                                                                                                                                                                                                                           867 PMACMCDCIDMENEDISPASYTYTYYMDGIN (NEGLIATTEBEDGY AAGNHETCVIYK 924
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FID GURDVERTOLGUEVELLET ARTIVEARHARAVIAAABHAWOONTGEQELLOADHRIESGSVI 772
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   615 QASYSI------QASAGSY-VAISKI)GVLYGTGVANASGVATVSMTKQITENGNYI)-- 663
                                                                                                                                                      967 PNG---TPNPNPNPNPNPRPGTTLSESFENGIPASWKTIBADGDGHGWKFGNAFGIAGYNSN 1028
                                                                                                                                                                                                       392 VKGKITTEGGSPDYQDSDATTNAHIITLG------EPGTSPNTV-FASN 433
                                                                                                                                                                                                                                                                                                             343 GSVFQAGPSTAMNWYYTSGSG-----DVKSAGKRQSNRGVAPDAMGBNAV-----MYDA 351
                                                                                                                                                                                                                                                                                                                                                                                                                 BET GOSWEGGVEDENGEVYSPESKIWIEL FNAKVNEMITA - FREJILYFSENHAWLFGWKK 342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       816 EVVIPGG------VYDYCITNPEPASGKMWIAGDGGNQPAR --YDDFTFEAGKKYTFIM 866
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        238 CIVVIOUNDAKKISLYD------SSSDSWIFGF DMCVAFOYQSSATMSDGK -VFII 286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           773 -----PATGPLETGTASSNLYSANEEYLVFANADEVVITQNIIVT------ ***-0QG 815
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              204 TSSWDPSTG-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            158 ----- HERWCPTIDLPIVPAAAA IEPTSGPVLM-----WS-----SYRNDAFEGSPGGIIL 203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                120 PARYVRLVAITEANGQEWTSIAEINVFQASSY-----IAPQPG------ 157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       558 WAGNLAATHAGNIGNITHIG-AHYYWEA-YHVLGDGSVMPYRAMPK-TNTYTLPASLPQN 614
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    65 VNGLSVLPRQDGNQNGWIGRHEVYLSSDGTNWGSPVASGSWFA-----DSTTKYSNFETR 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     14 WAVTCUSAQSGNECNKAIDGNKDTFWHTFYGANGD-----PKPPHTYTIDMKTTQN 64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEPHONE:
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                                                                                                                                                                                                                                                                ----YTAGVSPKVCKDVTVEG---SNEFAPVQNLTGSSVGUKVTLKWDA 966
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20.9%, Fred. No. 0.087;
ative 80; Mismatches 2
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                                                        --LITPALDLPNGGKLIFWVCAQ 1065
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US 08-354-485-10
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hest Local Similarity 20.0%; Frod. No. 0.087;
Matches 148; Conservative No. Mismatches 241; Indels 244; Caps
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UN 09 522-229B 2
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AFFLICANT:
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                                                         COMPUTER READABLE FORM:
MEDICM TITE: FLENGY JICK
GOMPUTER: JEM PC compartible
COLERATING STOLEM, PC LOSSYMS-DOS
SOFIWARE: Futentin Release #1.0, Version #1.25
CULKENT APPLICATION DATA:
CULKENT APPLICATION DATA:
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IIILE OF INVENTION: An Enzyme With Rhammogalacturomase Activity
NUMBER OF SEQUENCES: 3
CORRESPONDENCE ADDRESS:
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CLASSIFICATION:
                                            APPLICATION NUMBER:
                                                                                                                                                                                                                                COUNTRY:
                                                                                                                                                                                                                                                         STATE: New York
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Christyau, Stephen
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Dalbuge, Henrik
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Whest Local Similarity 19.6%; Score 128; DR 2; Length 527; Hest Local Similarity 19.6%; Pred. No. 0.079; Matches 119; Conscruative 69; Mismatches 154; Indels 240; Gaps
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Fitcht No. 588291
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SEQUENCE CHARACTERISTICS:
LENGTH: 527 antito acids
APPLICANT:
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NAME: Gregg, Valeta
REGISTRATION NUMBER: 85,
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M LETULE TYPE: internal
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STRANI/EDNESS: single
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                 Kamppinen, Markus Sakari
Christgau, Stephen
                                                                                                                       Andersen, Lene No. 5882911boc
Dalloge, Henrik
                                                                                                                                                                                                                                                     Kotod, Lene Venke
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Best Local Similarity 19.6%; Pred. No. 0.019;
Matches 113; Conservative 69; Mismatches 154, Indels 240; Caps
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INFORMATION FOR SEC ID NO: (
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APPLICATION NUMBER: US/08/522,229

FILING DATE: 29-AUG-1995

ATTORNEY/AGENT INFORMATION:

NAME: Gredg, Valeta

REGISTRATION NUMBER: 35,127
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APPLICANT: Voragen, Alphons Gerard Joseph
TITLE OF INVENTION: An Enzyme With Rhammogalactaromase Activity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MOLECULE TYPE:
FRAGMENT TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE CHARACTERISTICS:
LENGTH: 527 aming acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE/DOCKET NUMBER: 39
TELECOMMUNICATION INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Heldt-Hansen, Hans Peter APPLICANT: Christophersen, Claus
222 YWYMNSCHVÇTESYEMGLHGPYSMYFSRSGTPSTSIDTSFFADIDIKGYVAASGRGKVAG 281
                                                                                                                                                                                                                                                                                                                                                             162 SAVKPAASSTRASDLSTISDTALPOMPTAVOMILNQYESSSGPFHPDINSNNGGSYNAL 221
                                                                                                                                                                                                                                                                                                                                                                                                                                                           109 ------IIHMATYITAEPSIGELRFIAKLNSDLLPIKSKLAIFPPPLTGLPLKDQMOFW 161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                    340 TVSAGSTTTKNISGSVKTGTTIFKIGE------WDGQPTAFKN---AANHVKMHPSDS 388
                                                                                                                  277 TMSPGEVIT -IGGS-WSQCVFERNJEVYSESSKIWISIJ-NAKVNOMIJAJKQGLIKSUN 333
                                                                                                                                                                   282 TASGADSSMDWVVIWYNDAAQYWTYTSSSGSFTSPAMKFGTYIMYY--YGGEYAVATSSV 336
                                                                                                                                                                                                                                                                                                               206 SWDPSTGIVSDRTVTVTKHDMF------CPGISMD------GNCQIVV 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: amino acid
STRANDEDNESS: sin
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TSIAEINVFQASSYTAPQPGLG--RWGPTIDLPIVPAAAAIE------PTSGRVLMW 186
                                                                                                                                                                                                                                                                                                                                                                                                                  SSYR-----NDAFEGSP-----
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UN-OH HAR-KHEA-10
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Underly Match 3.7%: Score 127.5; DB 4: Locart 2124; Host Local Similarity 21.44; Fred. No. e.17; Mismatches 120; Candervative 42; Mismatches 156; Indels 186; Caps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 10. Application USZDB96969FA Fatern No. 52119F1
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APPITIANI DIOSTA, L
HILLE SE HEWRITCH, L
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MEDIUM TYPE: Fideppy Alsk
COMPUTER: HAM PC Compatible
OPERATING SYSTEM: PC-100S/MS-190S
SUFIMAPF: Patentin Po-00350 #1.5, Version #1.40
CURRENT APPLICATION DATA:
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                                            LAX KKORO PERKURANGAN MENGAN MENGALUT PERKUMBANGAN PERKUDI DENGAN PERKURANGAN 
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US-09-377-155-33
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CÜRENIN ALFLICALION HOMBER, 95/03/377,155
CÜRENIN FILLING DATE: 1999-08-19
FRIOR FILLING DATE: 1998-12-14
PRIOR FILLING DATE: 1998-12-14
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SEO ID NO 33
LENGTH: 2353
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PRIOR FILING BATE: 1997-12-12
NUMBER OF SEQ ID NOS: 33
                                                     IKII ALKUGASVAKULENAVIIDATIAGGINANDEGK — VVVKGSNGATATETUKKKVATVG 1565
                                                                                                                                                                     1260 TVSAKTUNNGKHTVTIDVAEAKVGDGLEKDTDGKIKLKVDNIDGNN------LLTVD 1310
                                                                                                                                                                                                                                                                                1200 NTISVIKEGISAGNKEITNVKSALKTYKEIQNTAFET;EKEFHAAVENANEVEFVSKNOA 1259
145 -----VFQASSYTAPQPGLGRWGPTIDLPIVPAAAAIFPTSGRVLMWSSYRNDAFEGSPG 199
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APPLICATION RUBBLE: US OR/409,995
FILLING DATE: 24 MAR 1955
FREER APPLICATION DATA:
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APPLICANI: Barcakamp, Stephen J.
LITLE OF INVERTIGE: BARMOPHILUS ADHESION PROTEINS
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3.7%, Sevice 127.5, UE 4, Length 2853;
Best Local Similarity 20.5%; Pred. No. 9.2;
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                                                                                                                                                      617 YWMLFYMNSAGV--PSVASTIRVTO 639
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C. L. L. V.
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Host Local Similarity 19.7%; Score 126.7; 18-4; Length 967; Matches 147; Conservative 73; Mismatches 25%; Indeis 274; Gaps
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Referent No. Faucilia
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N. KALL INFORMATION:
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AFFELTANI BLOOM FLITTE N.
AFFELTANI ALLOW LATEY N.
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Search Completed January 3, 2002, 09:17:00 Job time: 182 sec

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## ALTGNMENTS

PA (BIDC-) BIDCAIALYITCS INC XX PI ROZZELL DJ, BUI P, HUA XX DR WPI; 2001-483235/52. DR N-PSDB; AAH74601. XX		AAACEATERS  III. AAACEATERS  XX. AAACEATERS  X	CECTION
ALTHOS INC.	W::202155:42-A2. 02-AUG-2U01. 31-JAN-2001: 2001WO-US03186. 31-JAN-2000: 2000US-0494921. 08-DEC-2000: 2000US-0734237.	Treg:  AANGESE2;  AANGESE2;  In The Trett Protect of A galacter exidase.  Morthispins gamma lyanger mdoA gone; trop folding emerge; gene shoffling: discretive lation, maken through galacters maken maidase.  Hypomyces rosellus.	

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Claim 6: Page 111-113; 117pp; English

nserul for developing nucleic acid sequences that enhance expression of the encoded protein in a heterologous host. The design and preparation of the synthetic genes are used in application of gene shuffling, directed evolution and solecular breading methods. The method allows expression of genes from various organisms such as mammals, plants, year, their and tectoria in production basis, such as Essentichia genes that entering in the basis and mammals produced that entering the basis at commercially viable levels, in particular specification describes a method for designing a synthetic polynacleotide. The method comprises providing a starting polynacleotide, determining the predicted free energy of folding per base of the polynacleotide, modifying the polynacleotide by replacing a codom with a filterent codom to provide a modified polynacleotide, determining free energy of folding per base of the modified polynacleotides and comparing this with that of the original polynacleotide. The method is proteins with low yield such as methionine gamma-lyase from P. putida the present sequence represents a galactose exiduse enzyme. The polynomiaeofide was modified using using the method of the invention. The

660 W.

Score 3416; DB 22; Longth 680; Pred. No. 1.3e-245;

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Best Lord Similarity 99.7%;
Marches 647; Conservative
5.12 systoppsdsqvalpgywmlfvmmsagvpsvastirvtq 680

        181 GKVLMWSSYENDARGSSYSGITTISSWIPSIGIVSPRIVIVIFHUMPOJGISMUGNVQIV 240

        181 GKVLMWSSYENDARGSSYSGITTISSWIPSIGIVSBYLVIVIFHUMPOJGISMUGNVQIV 240

        222 FFULNWSSYTLLARTGSRPGGITTISSWIPSBYLVIVIKHUMPOGGISMUGNGTV 281

                                                                                                                                                                                                                                                                                                                                                                                                                                541 ATRPKTTK1SIQSVKVABRITISTISSISKASLIKYGTATHTVNTIQRRIPLTTTNNGGN 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             481 DIFYEQNERSIVEAYBSISLIEPEGRYPROSOSECOPCTURHFDAQIFTPRYLYRSNGNL 540
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                                                                                                                                                  SYSEQVESDSGVALEGYWMLEVMNSAGVESVASTIRVTQ 639
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                                                                                                                                                  Query Match
Best Local Similarity
Matches 637; Conserv
                                                                                                                                                                                                                                                                                            of the synthetic genes are used in application of dene shufflind.

Hireried evolution and molecular breeding methods. The method allows expression of genes from various ordanisms such as mammals, plants, year, fari and betteria in full rightly books, such as beckerichia and eukaryotic hosts at commercially viable levels, in particular proteins with low yield such as merhionize gramma-lyase from P purida.
                                                                                                                                                                                                                                                                                                                                                                                                                                   comparing this with that of the original polynucleotide. The method is useful for developing nucleic acid sequences that enhance expression of the encoded protein in a hoterologous host. The design and preparation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                specification describes a method for designing a synthetic polynucleotide. The method comprises providing a starting polynucleotide determining the prodicted free energy of folding per base of the polynucleotide, modifying the polynucleotide by replacing a codon with a different codon to provide a modified polynucleotide, determining free energy of folding per base of the modified polynucleotides, and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              besigning synthetic nucloic acid sequences for improved amplification, expression in host cell, by comparing tree energy of folding of a starting polynuclectide and a modified polynuclectide having a codon replacement.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The present sequence represents a modified galactose exidase enzyme, polynucleotide was modified using using the method of the invention.
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08-DEC-2000;
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                                                            61 TTQNVNCLSMLPRQDGNQNGWIGRHEVYLSSDGINWGSPVASGSWFADSTTKYSNFETRP 120
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35 1831 1003
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2000US-0734237
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99.78;
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                                                                                                                                                                       Score 3416; DB 22; Length 681; Pred. No. 1.3e-245;
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N-PSOB; AAA74477.
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Matches 407; Conserv
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of molecular exygen to Dogalacto-bexedialdose and hydrogen peroxide.
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63.0%; Pred. No. 1.1e-155;
ative 83; Mismatches 146; Indels 10; Gaps
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26-00T-1999;
28-00T-1999;
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                                                                                                                                                                           Novel isolated defence-related signalling gene isolated from sunflower encoding neowanthin cleavage enzyme, amino acid permease or glutamic acid-rich protein useful for increasing resistance of plant to a
                 enzyme (NCE), an amino acid permease (AAP) and a glutamic acid rich protein (GKP). The signalling gene is useful for increasing the resistance of a plant to a pathogen such as tungus, virus, bacterium,
nematode or insect (e.g. European corn borer), preferably
                                                                    This invention relates to defence-related signalling genes isolated from the sunflower (Helianthus annuas). The genes encode a neoxanthin cleavage
                                                                                                                        Example 1, Page 128:135, 135pp, English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                434 FTEHTSVVLPDGSTEITGGGGRRGIP--FEDSTPVFTPFIYVPEG---DTFYKGNPNSIVR 493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              92 rimsdtvilpsydillymyakryesgwyyykdpafapllykphaarykrfiglkpttipr 151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61; Conservative
                                                                                                                                                                                                                                                                                        Crasta OR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             990S-0161360.
990S-0161361.
990S-0161920.
990S-0161992.
990S-0161993.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   %; Score 217.5; DB 21; Length 310;
%; Pred. No. 3.1e-08;
36; Mismatches 96; Indels 25;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      rpkirt 209
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                                                                      cleavage
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Schreatinia spp., Phoma spp., or Phomopsis spp, by Stably incorporating a constraint containing the gene into the genome of the plant. The gene is userby for regulating gene expression in a plant, in response to a standlar such as intection with a pathogen, damage from a pathogen, bydroden peroxide, jusmonic acid, methyl jasmonate, salicylic acid, outling axil or expression of a game peroxing exalic acid oxidase. The genes are useful in agriculture, particularly in the provision act of crop plants with improved agronomic traits, for modifying absolute acid (AMA) metholism and for modifying acid transport and confent in plants, the present sequence represents a glutamic acid rich protein (GRF)-rice protein isolated from Synechocystis sp. The protein isolated in the characterisation of sunflower AAF.

entropione 1749 AA:

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(.ec; Match 4.4%; Score 152; D8 22; Length 1749;
Rest Local Similarity 20.0%; Pred. No. 0.027;
(Matches 144; Conservative 85; Mishatches 248, Indels 244; Gaps
17 Y 617
                                                                                                                                                             (38 taplintqutlytspituldidukiqluantitapoydi, irkszujaidliquanisy)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     151 dsaidtqnddwt----qvtsdndyn-align----
                                                         681 haddnvstd-- hintragnvdigalgnistgsivtspfggnagnv-ilnaggtltty
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   *** GKRQSNEGVAPDAMCGNAVMYDAVKGKILTFGGSPDYQDSDATTDAH1ITLGEPG----- 423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GSATSMNN--WAVIGDSAQSGNECNNAIDGRKDTFWHITTGANGDEKFPHTYTTDMKTTQ 63
                                                                                                            ISKASLIKYGTAIHIVNIDQRRIPLILINN---- GGNSYSFQVPSDSGVALFG of6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ---quntsadpsap-qn-------ltf------dsptitidalfslqtqsiitan 529
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HOMEOTO LISMO----GREQ LVVTGGNDAKKTISLYDEB-----SDEWIFGEDMQVARG---- 271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           - VFAAAATETTSOKVIIMSSYKRIAEGGSMOTTITISSWD - PSTGIVSDRTVTVIK 223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Himagdisyte------qknlttlagniyntqsiaa.
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                                                                                                                                                                                                                                                                                                                                               GORRGIPPEDSTPVETP------SIYVPEQDTFYKONPNSIVRAYHSISLLEPDGRV 507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            i - maddstrtsgsisaggatmgg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ··YOSSATMSI@BYPTIGGSWSGGVFEKNGEVYSPSSKTWTSI PNAKVNPMLTADKQGLY 329
                                                                                                                                                                                                                                                                                                                                                                                                                                                               -----TSP------NTVFASNG--LYFASTPHTSVVLPPGSTFITG 456
                                                                                                                                                                                                                                                                                   ririsquqalisle-evspqmnqqqstsvldlptlltqq 272
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RESULT 11
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                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAY35162 standard; Protein; 1146 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Regrirg'ery disease; pneumonia; bronchitis; heart disease; sarcoidosis; sinusitis; purulent otitis media; erythema nodosum; pharyngitis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                            immunogenic compositions as vaccines. Vectors containing C. pneumoniae nucleotides sequences can also be used as immunogenic compositions, especially where the vector directs the expression of a neutralising epitope of C. pneumoniae.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C. pneumoniae causes respiratory disease such as pneumonia and bronchitis and is thought to be a contributing factor in heart disease, sarcoidosis, sinusitis, purufent office media, crythema nodosum or pharyngitis. The polypeptides encoded by the open reading frames of the C. pneumoniae genome (see ANY34584-Y35879) can be used in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAY34584-Y35879 represent the proteins encoded by all the open reading frames in the complete genome (see AAX91990) of Chlamydia pneumoniae.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Genome sequence of Chlamydia pneumoniac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WP1; 1999-357842/30
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21-NGV-1997;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              vaccine; neutralising epitope
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Chlamydia pneumoniae cellular envelope protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     13-SEP-1999 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Page 1027 1029; Disclosure; 1912pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 20-NOV-1998:
                                           376 GVAPDAMCGNAV-MYDAVKGKILTFGGSPDYQDSDATTDAHLLTILGEFGTSPNTVFASNG 434
                                                                                                                    480 yyaiyyetidisitgatfiynsskhdysaicestaltlapnsglifennkrtetlarrka 539
                                                                                                                                                       280 FIGHTE-TINGSWSGGVEFKNGEVYSDS----SKTWTSLENAKV
                                                                                                                                                                                                                             220 OPTISMETH------CQIVVEGNEAKKIRIYESSSSESWIPTHMQVARGYQSSAIMS 270
                                                                                                                                                                                                                                                                                                  156 TVPAAAATEPTSGRVL:MWSSYKNDAFGGSFGGITLIISSWDPSTGIVSDRTVTVIKHEMF 227
                                                                                                                                                                                                                                                               380 ifsaavtiennsgpiiflnnsakscattaatag----nkdscqqaiaansvtltnn--- 48
                                                                                                                                                                                         poittkanyaetgaaigeidlingspprkysiadnasylt----
                                                                                                                                                                                                                                                                                                                                        106;
                                                                                                                                                                                                                                                                                                                                        Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     UEBIUHI-OMBB
                                                                                                                                                                                                                                                                                                                                          68; Mismatches 175; Indels 136; Gaps
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                                                                                                                                                           NEMLITADKQGLYR 330
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	58 EM · · KITONVMILMERGANIZHOWERBEVYLSSOOTKWORPVASGSWFADST 110	qe AA
	15 AVTODSAGAGNENKALIGNA GTEWATETGANGTEREPHI • • • • • • • • • • • • • • • • • • •	qq An
44	; Score 140.5; DB 20; Length 699; ; Pred. No. 0.053; 99; Mismatches 227; Indols 251; Gap	7 75 6
	Sequence 699 AA:	SO
	This invention describes a escal could active protesses, CP70 from Elazobacterium balastinom. The product of the invention is useful in determent compositions for use in cold temperature wash water. The characterization of the polynacleotide facilitates the production of an alternative relatively large source of soid active protesses.	<b>188888</b>
	Example 1; Page 18-21; 25pp; English.	x E
	Newly isolated GP7% polymelechide calibiting characteristics of Deposit No. FERM Br-5154 $$	X T T
	WPI: 1999-347483/29. N-PSDB: AAV72330.	× = = = :
	Kitado H. Yoshikawa A:	× - >
	(PROC ) PROCTER & GAMBLE CO.	× ~ > >
	14-NOV-1997; 97WO-U520843.	PR Y
	14-NSV-1997; 97WO-0S25843.	44 44
	27-MAY-1999.	Pi.
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	flav.basterium balustinum.	×
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	f. balustinum CP70 protein.	X E
	28-JUL-1999 (first entry)	XX TO TO TO TO TO TO TO TO TO TO TO TO TO
	AAYJ0471;	AV AC
	KESULF 12 AAY0H471 D AAY0H471 Standard, Erotein, 690 AA.	AAY AAY
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	511 GGGCGDTIRHTGAGILTERKINGGGGGGGKIKTGIKTSTQSKKV. GRITISTGSSI 290 	qq Ar
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AAB15945
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    z_{\rm T} s kind J, Ohlsen KL, Trawick J, Forsyth PA, Freelich JM, Carr GJ; Yamamoto RT, Xu HH;
                                                                                                                                       27-JAN-2000; 2000WO-US02200
                                                                                                                                                                                  03-AUG-2000.
                                                                                                                                                                                                                        W0200044906-A2
                                                                                                                                                                                                                                                                                                  Escherichia coli, E. coli; proliferation, inhibition, screening; antimicrobial; bacterial growth; antisense therapy; antibacterial.
                                                                                                                                                                                                                                                                                                                                                               E. coli prolif⊷tation associated protein sequence SEQ ID NO:302.
                                                                                                                                                                                                                                                                                                                                                                                                      05-OCT-2000 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                AAB15945;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAB15945 standard; Protein; 2383 AA
                                                           (ELIT-) ELITRA PHARM INC
                                                                                                   27-JAN-1999; 99US-0117405
                                                                                                                                                                                                                                                              Escherichia coli.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          494 PAYHELELLE PICKUPNICONTENDENT NHE-----FAQTETPNYLYNSNGN LATRPKI 546
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     318 gydcigtgslakniivvgatdiittmmnryttasdvvhssyssagprddggikpdistvg 377
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                541 httyypwkldadspmtpatkadnivdnveqvvldnpvpgrnyrievinkgilvndagiaa 600
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      267 npsylivksagnyfnmgptgtgssapkyynsgngavafa-----atdtlppnncsl 317
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    234 sftyngykagdtf.....
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               126 dafnnatgr-----itnkeastq-----sysdhstgvgsfiggksvnl- 163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 601 panysiiv 608
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              481\ tsgvtnsktikasgseplkytiswldpkyipnygfvsdvfnnrtsklindidlriidttt^{840}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             378 tnvlyaatvttt----gstw---agusgtsf--sapivtgiiglwtginkqlfn:nall 426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   433 NGLYFARTFHTSVVLPDGSTF1TGGQPRG1PFEDSTPVFTPE1YVPEQDTFYKQNPNSIV 492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           226 MPC---PG1SMDGNGQIVVIGGNEAKKISIYESSSDSWIPGPEMQVAFGYQSSAIMSDGR 282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          581 HTV-----SDSGVAL 614
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -----ssggvpv· · · · · · · · gnakgvainstmdsymfntttlpnntatstvfg 203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TE..TSTQSVEVGG----PITIS-------TDSSISKASITEYGTAT 580
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Mutifies 14% Conservative 89; Mismatches 253; Indels 255; Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          destrity a proliferation- required gene in a microorganism, by contacting a microorganism with a proliferation-required gene activity inhibitory
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                                                                                                            2144 stoinedy) or the a flattig intrigation is fursed been excepted; 2213
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         The invention relates to human nucleic acids (AAI57798-AAI61869) and the choosed polypoptides (AAM38412-AAM42213) with monorropic, inclassarprefrant and cytistite as triby. The polymedications are useful in dene therapy. A composition containing a polypoptide or polymedicatide of the invention may be used to treat disease of the peripheral nervous system, such as peripheral nervous injuries, peripheral nerropathy and localised accumpathies and contral privous system disease, such as Alzheimer's, Parkinson's disease, Huntington's disease, amyotrophic lateral sclerusia, and 3thy Drager Syndrome. Other uses include the utilisation of the activities such as immune system suppression, and thrombolytic activity, Cancer diagnosis and therapy, drug screening, assays afforders.
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Wand J.
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C.N.S disorders.
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03-AUG-2000; 2000US-0653450
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19-JUL-2000;
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                                                                                                                                                                                                                                                                      Promple 5; 50% 10 NO 3370; 10078pp; English.
                                                                                                                                                                                                                                                                                                      Novel nucleic acids and polypeptides (useful for treating disorders such as contral nervous system injuries).
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29-NOV-2000;
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Example 1: Page 131-139; 142pp; Engl.sh
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al Similarity 24.5%; Fred. No. 3.082;
75, Conservation 38; Mismatches 12d; Indels 65, Gaps
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The present sequence is that of a deletion allele, termed CC (See AAY95556), of the Caenorhabditis elegans LOV-1 protein CC (See AAY95556), generated by genomic deletion of the PKD/channel CC domain of the lov-1 gene by PCR. LOV-1 is an orthologue of the human polycystin-1 (PKD1) gene that is defective in human CC anthosomal dominant polycystic kidney disease (PKD). The LOV-1 protein is involved in chemosensory of the sective signal controlled in sensory neurons. It is required for 2 male for transduction of the vulva. Nematodes such as C. elegans that CC express mutant or wild-type LOV-1 or PKD-2 (see AAY95557) can be used to study the functions of the proteins encoded by these genes, to convolved in the DCD-1 of the proteins encoded by these genes, to convolved in the ACC elegans that affect FKD. Eachardours controlled by the action of the genes or gene products are identified and used in the assays spenses or gene products are identified and used in the assays spenses or gene products of the first study of the etiology of PKD and provides a controlled by the areas involved in the discuss pathway, to controlled by the areas involved in the discuss pathway, to controlled by the areas involved in the discuss pathway, to controlled by the areas involved in the discuss pathway, to controlled by the areas involved in the discuss pathway, to controlled by the areas involved in the discuss pathway, to controlled by the areas involved in the discuss pathway, to controlled by the areas involved in the discuss pathway, to controlled by the areas involved in the discuss pathway.
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Query Match 99.7%; Score 3416; DB 1; Length 728; Best Local Similarity 99.7%; Pred. No. 4.6e-207; Matches 637, Conservative 1, Mismatches 1, Indels 0, Gaps

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## ALIGNMENTS

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Chino C.W.; Chong, M.K.; Coso, L.; Cosway, A.E.; Coway, A.P.; Choasy, T.B.; Dowat, K
Unsen, N.F.; Hauhes, B.; Huizar, L.
Wature 198, 816-820, 2000
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24.4%, Fred. No. 9.1e 16;
ative 78; Mismatches 211;
                                                       DB 2: Length 504;
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                                                                                                                                                                                                                                                                                                                                                                                                     280 KMPHARVMGDMIPLPNGDVLLINGGSFGTAAWELGRTPVLAPDLYHPENPVGSRFESLRP 339
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FTEKSKSPMYEVQVETPPSANIAWPGYYMIFVVNQ-DIPS 496
                                                                                                                                 RPKIISPEPQSMIKYGTNLKLKESVTGEVITPAKVTMVEPIFTTHSFAMNQRVIVIDNVK 457
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GLYFARTFHTSVVLPDGST-FITGGQRRGIPFE-DSTFVFTPETYVPEQ---DIFYKONP-488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAVMY------DAVKGKILTFGGSPDYQDSDATTDAHLITLGEPG----TSPNTVFASN 433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FFVFMNTUGNLFMFANNRATLLDYVKNTVVKTFPATPGGDPRNY---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NHILPDCKQIVMGGQ----GQF--NYEFFPK-----TINPNVVALPFLAETHDQGQENNLY 171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SATMSDCRYFTIGGSWSGGYFEKNGEVYSPSSKTWTSLPNAKVNPMLT-----ADKQGLY 329
                                                                                                                                                                                             RPKITRTSTQS-VKVCGRITISTD-----SSISKASLIRYCTATHTVNTOQRRIPL---T 593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -----PSDNHAWLFGWKKGSVFQAGPSTAMNWYYTSGSGDVKSAGKPQSNRGVAPDAMCG 384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    --OSNIWOSSGSVEPDGVLVQIGGDEDGELKIPTESPONNNQODWVEMNNGLKKERWYAS 121
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A:Map position: 3

A:Map position: 3

C:Superlamil: Arabidopsis thallaca hypothetical protein FFY20 750

C:Keywords: copper; meral binding; exidereductase

F:117 168,70ress:link.cysteinyltyresire (Cys-Tyr) #status predicted

F:168,389,390,485/Binding site: copper (Tyr, Tyr, His, His) #status predicted submitted to the Profein Sequence Database, April 1999 A:Reference number: Z15794 A:Accession: T06758 probable galactose oxidase (EC 1.1.3.9) F15B8.190 [similarity] - Arabidopsis thaliana C;Species; Arabidopsis thaliana (mouse-ear cress) C;Bate. 23 Apr 1999 #sequence\_revision 23 Apr 1999 #text\_change 24 fort:2000 C;Accession: T06758 C; Genetics: A; Molecule type: DNA A, Residues 1 547 < QHEV A, Ottoss: of compose PMR Righetier, F.; A: Gene: ATSP:F15B8 190 A; Experimental source: cultivar Columbia: BAC clone F15H8 Best Local Similarity Renes, V.: Rechmann, S.: Borkova, D.: Ansorgo, W.: Salanoubat, PMRE ALDIGERO, GSEDR-CNOODSI; ATSP-E1588,190 7.8%; Score 268; DB 2; Pred. No. 1.8e-09; DB 2: Length 547; Mew

43 AG

SNVSLPGCI---CRYDPTDTAEKFDCSAHSVLYDVSSNTYRPLNV-QTDTWCSSGAVLPN 125

-----GIVSD--RTVIVIKHDMFCPGISMDGN 246

S----PGGTTLTSSWDPST-----

139 STAETINVFQASSYTAPQPGLGRWGPTTDLPTVPAAAATEPT--SGRVLMWSSYRNDAFGG 196

Conservative 103, Mismatches 212.

Galis

141;

SMAILSEGONPELLO---LIDEW--EMILES IS ISAMEMOLLHNOMVIMED--RID-FGT-69

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Guery Match
Best Local Similarity 25 99; Pred. No. 2.4e 09;
Matches 124: Conservative 62; Mismatches 191; Indeis
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Note: PRK2012 Alabidopsis theliana hypothetical protein F5K20.250

(Regentably: Alabidopsis theliana, oxidoreductase

(116-168/ornes line: systellyltyrosine (Cys-Tyr) #status predicted

(116-168/ornes line: systellyltyrosine (Cys-Tyr, His, His) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (dExperimental source: cultivar Culumbia, BAC clone F5K20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCTOSS-references: EMBL:AL132968
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 UMolecule type: DNA
Ukesidues: 1-545 ∠MONJ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               schwitted to the Protein Sequence Database, January 2000
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Pato - 04-EF-b-2000 #SONIESE2N_FRONTELL SECTION #FEXT_Pands - 24-SEL 2003
PACOCSSION: T45935
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217 TYPYYHELENGEOGHLETERASERYKTOHRI HAVVKELGELUGGERNYESG-GSSAML- 2/3
                                                                                              337 (F9W-------KKG5V) ÇAĞI SIAMBATT (SGSĞDVA — SAGKKÇSNKGVAFDAMCG 384
                                                                                                                                                                                                                                                                                                                 277 IMSPRIPARTI ODSWSODY: LKNOCATSTSJKTWISLINAAANK NILIADAQGLAKSDAHAW JJO
                                                                                                                                                                                                                                                                                                                                                                                                                     114 PTWOSSONGER SPESTED TOOLED PRETER A LEE DE HULLDWAND DE DELIGHWEASNY 172
                                                                                                                                                                                                                                   AIMLEMEDATIASEMMIN 821
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    225 DMF72013MGGHGQ1VV160 MWAKA18E1D----558D5W1FUFDMQVARG--YQSSA 276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    516 GPSTAETAPPGYYMTELVH-AGTESSAAWVQL 546
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            340 PTGIWITYKOAPANTAGWEKAKLETIÇIYIYIYU DHU IYMSIYSKEKMIHSSATLLEDG 399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               284 VEVEIMVCGGSPKGGPSRGPTRAISTOGELEKKSDQSPS----WEMETMPKPRVMGDMILL 339
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A;Authors: Salzberq, S.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sun, H.; Tallo ker, M.; Wu, D.; Yu, G.; Fraser, C.M.; Venter, J.C.; Davis, R.W.
A;Title: Sequence and analysis of chi-missime 1 of the plant Arabidopsis.
A;Keterence manter: Abei41; MUID::21016719
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C/Genetics:
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R:Theologis: A ; Ecker, T.P.; Palm, C.J.; Federspiel, N.A., Kaul, S.; White, O.; Alon Chin, C.W.; Chung, M.K.; Conn, L.; Conway, A.B.; Conway, A.R.; Creas; T.H.; Dewar, ansen, N.F.; Hughes, B.; Huizar, L.
Nature 408, 816-820, 2000

Nature 408, 816-820, 2000
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A; Residues: 1-564 <STO>
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8 Best Local Similarity 23.2%, Prod No. 8 8e-08;
Matches 126, Conservative 77, Mismatches 224; Indels 115; Gups
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                                                                 267 NYPSTGSS-VILEPLEITGD-INETKITAEVMVGGAFFGAFFKAAHTIPKIFVAGSRTCG 324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   197 SPGCITITSSWD: PSTGI------VSDPT-----VTV-- 221
422 -- PCTSPNTVFASNGLYFARTFHTSVVLPDGSTFITGGQRRGIP-FEDST-PVFTPEIYV 477
                                                                                                                                                                                                                         213 ETROPNEENNLYPFIH-----LLPDGNIFTFANFFSILFDFVNHEIIKEFÞÓIFNDKE Jöö
                                                                                                                                                                                                                                                                                                   309 WTSLPNAKVN--PMLTADKOGLYRSDNHAWLFGWKKGSVFQAGPSTAMNWYYTSGSGDVK 366
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                                                                                                                                                                                                                                                                                                                                                                                                                                                       254 D$SSDSWIPG-FFMQVARTYQSSAEMSUGKVFILGS--SWSGGVFUKN-GE VYSDSSKI 568
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C;Keywords: glycosidase: hydrolase E:1 26/Damain. signal sequence #status predicted <810° E:27-1014/Product exo-alpha-sialidase #status predicted <MAT>

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A. Tail. simildase (D. 3.2.1.18) precursor - Clastridiam septicum W.Alternate names: neuraminidase paperios: Clostridium septicum paperios: Clostridium septicum paperios: Clostridium septicum paperios: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission: Sission:
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Reference formed expression, and characterization of the Micromonospora viridifactens sectorance number: A45244; MUID:93015752.
Accession A6214.
Reference formed by the compared with conceptual translation.
Reference formed by a compared with conceptual translation.
Reference type; nucloic acid.
References: 1-647 cSAS.
Physics: 1-647 cSAS.
References: CB.131645, NID 9216782, FIDM-RAAFGHS2 1, FID 81001416, FID 9216784.
References extracted from NCB1 backbone (NCB10:116820).
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date: [6-Jun:[59] #sequence_revision 18-85; [65] #Lext_ebanje 22 Oct 1999
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hypothetical protein PA1874 [imported] - Pseudomonas aeruginosa (strain PAOI)

P;Stover, C.K.; Pham, X.Q.; Erwin, A.L.; Mizoquehi, S.D.; Warrener, P.: Hickey, M.J.;

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                                                                                                                                                                                                        674 ÇVVIDHENGÇIKMEMENEDGÜNSGEVETATSETEGATWESEVVEDENTKEP-YOQLSVINYS 732
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               453 FITEROPPRIPFEDSTPVFTPFTYVPEQDTFYKONPNSI-----VKAYHSISLL 501
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733 QKIDGKDALLFALPDANYPNRVNGTVRV 760
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                                                                                                                                                                                                                                                                                                                                                                                                                                 SAVIYSDONCATW-NIGETATD-----GRIMDNGDRASAETITTNTSGGVGQL----TEC 673
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -----NLATEPKITETSTQSVKVGGEI------TISTESSISKASLIRYGTAT 580
                                                                                                 ----SAGVPS-VASTIRV 637
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                                                                                                                                                                                                                                                                                                                    --YSFQVPSDSGVALPGYWMLFVMN-- 624
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A:Molecule type: DNA
A:Positios: 1:216s St
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A:Reference number: A82950; MUID:20437437
A:Accession: A83412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     adman, S.: Yuan, Y.: Brody: I.I.: Coulter, S.H., Folger, K.K.; Kas, A.: Farbig, K.; Lim, I. I.Try, S.: Olsen M V
Nature 406-99-964, 200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A. Experimental Source: strain FAOL
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Best Local 3
                                                                                                                                                 1127 PSTF1 ANGTVEWVVAGGASGNSSPEA-----TVTVDSSAPPAPVINPSNGVVISG1A 1178
                                                                                                                                                                                                                                                                                                                                            1972 TTVDATAFATPIVNI,SN35FLSGIAHRSIVFLLC - - GNGNETADVJADGGNWIYI 1126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1012 GTAEPGATVILIDGSGNPIGQVTADGSGNWSFTPSTPLADGTVVNATAIDPAGNTGGQGS 1071
                                         587 ORKIPLILINNGGNEVET VESCESVALI STWALI VHINAMAV PAVASITIKV | 637
                                                                                                                                                                                                                                         580 PNYLENSMI---KLALPFKILFISIZEVEVUSELLISIDSSISKASLIKTGTATHIVNID 586
                                                                                                                                                                                                                                                                                                                                                                                                               471 FTPETYVPEQDIFYKONENSIV RAYBEISLLLEDGRVENARHGAGH-TTNHEDAQIFT 529
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         578 SDP-1GNT-----SAPASTTVUSVAPAAPVVNP----SNGAEIS 1011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       953 AUGSG----TA 977
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    379 PYAMONDAVMY AVECKILET CELLET GEGERALIGARIII LEGIT GEGENTYKASNGLYKA 438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               678 NOTTLSGTAFPGALVTLTD:SNGNP---IGQVIA-----DGSGNWSFTPTTPLPNG 724
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ALE VACHASTMANDELLANDE - PETTAMMINISTEYTTAN, AMILATMANDALLIZAĞV BOB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             777 IDGNONPIGÓVTALEISENWSPTÞSTIFLALEIVVNATATEFAGNTSGGGSTTVDGVAÞTTÞ 836
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    204 TS----- SWDPSTGIVSDRIVIVIKHD----- 225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       725 TVVNATATOASGNISAGSSVIVESVAPATEVTHESHGTTLGGIA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             563 VNVVARDAAGNSSPPASVIVDAVAPATPTVLFSNGTTLSGTAEFGSSVILLDGNGNF-IG 621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             504 APNAFYVEDENJSELSGTAEFGSSYT LTDGNJNPIGQTTADANGNWSFTPSTPLPDGTV 562
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| Eural Similarity | 15.26, Fred. No. 0.00025;
| hes 164: Conscription | 06, Miscatches 271, indexs 310; Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       D----AAUNSSPGASVIVDSQAPAAPVVNESNGTTLSGTAEEGAFVTLTDGNGNEIGQV: 952
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TVNLSNOSSISGTAEFGGTVILTDJNGNFTAEVIADJSGNWIYIPSTF1ANGTVVNVVAQ 896
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               --MECECTRACHOOP - TANTOGNOWY TELEFISHER THOUGHAR CAROLOGISMENS 579
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                POT - HIGH FALLMANDER INTO TAKE BARE BY COMPETENCIAL WAS ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL AND ALL A
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C:Superfamily: Arabidopsis thaliana hypothetival protein F5K20.250
O:Keywords: extracellular protein, ylycoprotein; oxidoreductase
F:1 22/Nomain. signal sequence #status predicted <SIG>
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Proc. Natl. Acad. Sci. U.S.A. 90, 7411-7413, 1993
Proc. Natl. Acad. Sci. U.S.A. 90, 7411-7413, 1993
A:Title: Clening and churacterization of a cDNA emoding algoxal dxidase, a H 20-2-pr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   dlyoxal oxidase (EC 1.2.3.-) precursor - basidiomycete (Phanerochaete chrysosporium)
C:Species: Phanerochaete chrysosporium
C:Dato: 23-Jun-1994 #sequence_revision 27-Jun-1994 #text_chango 31-Mar-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A:Cross-references: GB:L18991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A:Moleculo type: mRNA
A;Residues: 1-559 <KER>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A, Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Accession: A48296
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A; Note: SC:
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A: Posidues 1 1361 - 1
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A:Accession: T29435
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R;Furkhill, J.; Barr
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              submitted to the EMBL Data Library, July 1998
                                                                                                                                                                                                                                                                                                                           Query Match
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5.8%; Score 197; DB 2; Length 1361;
Best Local Similarity 26.5%; Pred. No. 0.00018;
Matches 54; Conservative 25; Mismatches 69; Indels 56; Gaps
                                                             195 GGSP----GSITLTSSWDPSTGIVSDPTVTVTKHEMFSFGISMDGNGQIVVTGGNDA--- 247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1162 PAGTAGTSATWQVTAAYAHEGATRTVSTGARAAVIDEPVLAPASTTATADSENTSSGASE 1221
                                                                                                                                                                             139 STAFTNVFQASSYTAF ... QFGLGRWGFIIDLFTVFAAAAIEFTSGRVLMWSSYRNDAF 194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1281 YEVAVSDDGEAW-TTVATGTLKDVPRTQKVSFDRVRASYVRFTALDALNGQPYAAAAEMR 1339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1232 GPVSNVLDGDAGTIWHTDYTTSQAFY PHWVILKLGGAADVDGFGYLGRQSGGFNGRVAD 1280
58 GDQPLKINGESTWGALWDLDTSTVRPLSVLT---DSFCASGALLSNGTMVSMGGTPGGTG 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 145 VFQASSYTAPQPGLGRWGPT1DLP 168
                                                                                                                                                                                                                                                             bocal Similarity
hes 132: Conserv
                                                                                                                          3 SILAVVSLAAATLAAFAASDAPG WRFDLKPNLSGIVALEAIVVNSSLVVIF----DRAT 57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           85 HEVYLSSDGTNWGSPVASGSWFADSTTKYSNFETRPARYVRLVAITEANGOPWTSIAEIN 144
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4 PIGSAISRNNWAVTCDSAQSG------24
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                                                                                                                                                                                                                                             Conservative 84: Mismatches 221; Indels 169; Gaps
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                                                                                                                                                                                                                                                                                    5.4%; Score 183.5; DB 2
21.8%; Fred. No. 0.00038;
                                                                                                                                                                                                                                                                                                                 DB 2; Length 559;
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MDG- 235 	178 PTSGRVLMWSSYRNDAFGGSPGGITLTSSW-DPSTGLVSDRTVTVTKHDMRCPGISMDG-		40
AATE 177 :: CTVD 937	: IEAN;		# 5
LVAI 129     : :   AVSV 877	87 VYLSSDĞINMĞS - PV-ASGSMEADSITKYSNEETRDARYVRLVAL 129 		7.
Gaps 40,	S.2%; Score 178; DH-2; Length 1441; Best Local Similarity 22.0%; Pred. No. 0.003; Matches 153; Conservative 82; Mismatches 212; Indels 266;	Yarary Matche	
SEPRICKUOLAS	Nobestalmes (1 1441 810) Nobestalmes (1 1441 810) Nobestalmental source: Strain Hilder Nobemedies: Nobemedies:	Cross Cross Cross Chart Cross	2,222
	Whither The complete anome sequence of the lactic acid bacterium N:Reference number: A86625 N:Reference number: A86625 N:Accession, B86807 N:Status: preliminary	Hitte Refere Referes Access Status	
Mar-2001 Weissenbach, J., Ebril	e: 23 Mar 2001 #sequence_revision 23-Mar-2001 #text_change 23 Mar-2001 ession: B86807 orBox in broker, P., Manger, S., Jaillen, O., Malarme, K., Weissenbach, orBox in broker 2001	Date: Access Boilot	
actis (strain 11.1403)	usul. Il #KBU/ pypothetical protein yold [imported] - Lactororous lactis subsp. lactis (st Especies: Lactocorous lactis subsp. lactis	distill dypothet	15 ž ž
	6.21 MSANNP 6.29 11   1 5.49 MSSONP 55.4		4
VM 623 	977 GYALHTVNTFOGREIFLITLTNNGG NSYSFOVFSDSGVALFGYWMLE VM   1   1   1   1   1   1   1   1   1   1		5 3
TETPY "71  :  LMD  488	5.3 FDAGIFTRHYLTHSHER ATFFETTETST_SVEVEGE -ITISTESSISE ASLIPE 776 4.66 LRIFILDPPPMERSEPALLIMPEKLKFG-KVIVPILIESU-KASKVÇVALMUL 488		÷ 3
FPSE 425	478 FERTHER MONTH SIVEAMER SILLLE SEVENSEE		<u>.</u> ₩
EIYV 477 :  SLYT 376	4-4-2 SNGLYFARTEHTSVVLPDESTEITGGORRGIPFEDSTPVETPEIYV	حش يو	ত স
HV(A 4%)	C.J. MANNY CHARLESTER CONTROL OF THE STATES	£ *	3 41
AMCC 484 :    PIDG 261	REAL HAMILEOWERGSVEQAGUSTAMNWYYTSGSCOVESAGREGSNEGVAFO	N	· ·
PR 216	287 ObsmedGVF LEGGVYS)	55 \$	
VETT 286 :   EMIT 171	248	- 5	

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A;Title: Genome sequence of enterohemorrhadic Escherichia coli 0157:H7. A;Reference number. A85488, MUID:21074945, FMID:11206551 A;Accession: B85547 A;Molecule type: DNA A,Rosilica. 15198 (3TC) A,Rosilica. 15628 (3TC) A,Cross relevences: GB:AECO5174; NID:q12513368; PIDN:AAG54838.1; GSPDB:GN00145; UWGP: A;Experimental source: strain 0157:H7, substrain EDL933 C; Genetics: A; Status: proliminary

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           120 PARYVRLVAITEANGQPWTSTAETNVFQASSYTAPOPGLGEWGFTLDL----PIVPAA-A 174
                                                                                                                                                                                   62 TONVNOI SMI PRODONONGWIGRIEVYI SSDGTNWGSPV-ASGSWFADSTTKYSNEET-R 115
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vuory Match
4.7k; Score 161.5; DB 2; Length 1433;
Rest Local Similarity 21.5%; Pred. No. 0.033;
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UROSAItelerences: EMBELUESBAL PIDK.AA546445.1
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A;Positions 1:2332 :GET:
A;Positions 1:2332 :GET:
A;Cross-reference: EMBLUBARAK, PILN.AA;Tox50.1; GSFCH.GNUBLER; CESF KU6A9.1a
A;Experimental source: Strain Bristol N2, clone K06A9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     704 LEAGAQRTVSASLGAREAGSYELSAVADEAN-----EILEQNETNNTYT 747
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        555 -KVGGRITISTDSSISKASLIRYGTATHTVNTDQRRIPLTLTNNGGNSYS 603
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        393 KGKILTFGGSPDYQDSDATTDAHIITLG---EPGTSPNTVFASNGLYFARTFHTSVVLPD 449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        501 TMDGSNLAVGKPITASSHIHTYVAENANDNSTSTYWEGAAGGYPNTLTLKLGANADVDSV 560
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      457 KSVAG-----NVTTYTDTQPASANVTYFVRAK------DAAGNESGDSNSVFRGG 500
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           343 NESSUDT---AVTGYDYYANGDLLTSVAGDVTTYTDTRPAGTTVTYHVRAKUAAGNQSGD 399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        187 SYRNDAFGGSPGGITLTSSWDPSTGIVSDRT.....VTVTKHDMFCPGISMDGNG 237
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       187 LTASSSTGAYTPGNGNDGNRATYWESANNA-----LPQWLQADLGSARRVNRVVLRLP-- 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  295 VTANTGQPAAQISELEVY-----GPETG-----DTQAPTTPANLAFTEPATGQIRLTW 342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     16 VTCDSAQSGNECNKAIDGNKDTFWHTFYGANGDPKPPHTYTIDMKTTQNVNGLSM-LPRQ 74
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Ouery Match 4.7%; Score 160; DB 2; Length 2232; Rest Lecal Similarity 20.2%; Pred. No. 0 074; Matches 144; Conservative 94; Mismatches 370; Indels 10 94; Mismatches 370; Indels 106; Gaps 21;

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Appone: avill1
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A:Status: preliminary; translated from GB/EMBL/DOBJ
A:Molecule type: mRNA
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CANALL H.: Takida. T.: Kawayeshi, T.: Sumitani, T
subsitted to the EMBL Data Library, June 1998
Whose Option: Avicelase III from Aspergillus aculeatus
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Matches 187; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1999 PSTHSVSSSERTTMSSCATTSCDKMSFLSSTOTTVSFSSPOSSLATTSAPKPSV 2052
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DAUTETHNYLYNĖNGNIAIRPKITRTSTQSVKVGGRITI-----STDSSISKASLIRYG 577
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TPVFTPEI--YVPEODTFYKONPNSIVPAYHSISLLLPDGRVFNGGG--GLOGDCTTNHF 523
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            Conservative
        4.5%; Score 155.5; DB 2; Length 856; 20.7%; Pred. No. 0.039; active 76; Mismatches 259; Indels 191;
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                                                628 VPS 630
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Scoring table: Sequence: BLOSUM62 Gapop 10.0 , Gapext 0.5

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Searched: 100059 seqs, 36664827 residues

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### SUMMARIES

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### ALIGNMENTS

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This SWISS-PROT entry is copyright it is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its most profit institutions as long as its content is in no way modified and this statement is not removed. Insage by and this statement is not removed. Insage by and the characteristic or send an email to license agreement (See http://www.isb.sb.ch/announce/orsendaness) all JAN-94.  PDB: 1600; 31-JAN-94.  PDB: 16	X-RAY CRYSTALLOGRAPHY (1.7 ANGSTROMS).  X-RAY CRYSTALLOGRAPHY (1.7 ANGSTROMS).  METHINE-91163/41, FHLMM-d-1002450,  ITO N. Phillips S.E.V., Stevens G.E., Ogol Z.B., McPherson M.J.,  Keen J.N., Yaday K.D. S., Knowles P.E.;  Keen J.N., Yaday K.D. S., Knowles P.E.;  "Novel thioether bond revealed by a 1.7 A crystal structure of pilother bond revealed by a 1.7 A crystal structure of pilother bond revealed by a 1.7 A crystal structure of PINAPPY ALCOHOL SUBSTRATES.  1- FUNCTION: CATALYSES THE STEROSPECIFIC GXIDATION OF A BEGAD RANGE OF PIMAPPY ALCOHOL SUBSTRATES.  1- CATALYTIC ACTIVITY. D GALACTOSE + U(2) = D-GALACTO-HEXODIALOSE +  1- COFACTION: OCCUPATION: SECRETED.  1- SUBCELIULAR LOCATION: SECRETED.	ULI 1  A_DACDE A_DACDE STANDARD; PRT; 680 AA. GAOA_DACDE STANDARD; PRT; 680 AA. GAOA_DACDE GAOA_DACDE STANDARD; PRT; 680 AA. GO1745; D1-JUL-1993 (Rel. 26, Castad) D1-JUL-1993 (Rel. 26, Last amoutation update) C1-AUG-2001 (Rel. 40, Last amoutation update) C2-AUG-2001 (Rel. 40, Last amoutation update) C3-AUG-2001 (Rel. 26, Last amoutation updat

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                                            "The stalldase gene from Clostridium septicum: cloning, sequencing, expression in Escherichia editant identification of conserved sequences in stalldases and other proteins."; Meditant Canada (1991).
                                                                                                                                                                                                      Clostridium septicum.
Bacteria: Firmicates: Bacilius/Clostridium group: Clostridiacoae:
                                                                                                                                                                                                                                 01-APR-1993 (Rel. 25, Greated)
01-APR-1993 (Rel. 25, Last sequence update)
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SIALIDASE PRETUKSOR (BO 3 2 1 18) (MEDRAMINIDASE).
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-!- FUNCTION: STALLDASES HAVE BEEN SUGGESTED TO BE PATHOGENIC FACTORS IN MICROBIAL INFECTIONS.
-! CATALYTIC ACTIVITY: HYDROLYSIS OF 2,3-, 2,6- AND 2,8-GLYCOSIDIC
                                                                                                                                 STRAIN-NC 0054714;
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SMARI; SM00231; FA58C; 1
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6.1%; Score 210; DB 1; Length 1014; Best Local Similarity 25.2%; Fred. No. 7.86.06; Matches 164, Conservative 102; Mismatches 281; Indels 26
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                                                                 MEDLINE-99206606; PubMed-10192388;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 99E812. UKCCI. Vakoba;
20-AUG-2001 (Re). 46. Greated)
20-AUG-2001 (Re). 46. Gast sequence apaute)
20-AUG-2001 (Re). 40. Cast annotation update)
PROFABLE OUTER MEMBRANE RESTEIN PMELO PRECURSOR (POLIMORPHIC MEMBRANE
Kalman S., Mitchell W., Marathe R., Lammel C., Fan J., Hyman R.W
                                                                                                                                   STRAIN CWL029;
                                                                                                                                                                                                                                                                                                                  Chlamydia pneumoniae (Chlamydophila pneumoniae).
Bacteria: Chlamydiales: Chlamydiaceae: Chlamydophila
                                                                                                                                                                                         SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                               EMP20 OR CPN0540 OR CP0212.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      151 YTAPQ-PGLG----RWGPTIBLFIVFAAAAAIEFTSGEVLMWSSYKNLAFGG--SPGGITL 203
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DDDDDDDDDDRRRARAAX RARAAX RAXAAX RARAAX                                       Query Match
Best Local :
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SIGNAL 1
CHAIN 22
DOMAIN 94
                                                                                                                                                                      SEQUENCE
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                                                                                                                                                                                                                                                                  DOMAIN
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EMBL: AF002547; BAA98746.1; -.
EMBL: AB033817; BAA85968.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the Ewropean Bioinformatics Institute. There are no restrictions on its usity managed institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (see http://www.isb-sib.ch/aus/nex/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Shirai M., Hirakawa H., Ouchi K., Tabuchi M., Kishi F., Kimoto M., Tabroichi H., Nishida J., Shibata K., Fijinaga R., Yoneda H., Matsushima H., Tanaka C., Furukawa S., Miura K., Nakazawa A., Ishii K., Shiba T., Hattori M., Kubara S., Nakazawa T., Comparison of outer membrane protein genes omp and pmp in the whole genome sequences of Chlamydia pneumoniac isolates from Japan and the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                White O., Hickey E.K., Peterson J., Utterback T., Berry K., Bass S., Linher K., Weidman J., Khonri H., Craven B., Bowman, C., Dodson K., Gwinn M., Nelson W., DeBoy R., Kolonay J., McClarty G., Salzberg S.L., Elsen J., Fraser C.M.;

"Conome Sequences of Chlamydia trachomatis MoPn and Chlamydia pneumoniae AR94";

Nucleic Acide no. 100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         InterPro; IPR003357; OMP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TIGE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; AE001638; AAD18680.1; -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  of send an email to licensewisb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ... Infort, Dis. 181 Suppl 3:8524-8527(2000).
-!- SUMCELLHIAP LOCATION: CELL WALL SURFACE (ELEMENTARY BODIES)
(POTENNIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDILINE-2030349; PubMed 10871362, Shirai M., Hirakawa H., Kimoto M., Tabuchi M., Kishi F., Ouchi K., Shiba T., Ishii K., Hattori M., Kuhara S., Nakazawa T., "Companison of Wholo genome sequences of Chlamydia proumoniae J138 from Japan and CWL029 from USA.", Nucleic Acids Pos. 28:2311 2314(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -!- SIMILARITY: BELONGS TO THE PMP OUTER MEMBRANE PROTEIN FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            United States.";
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y Match 4.2%,
Local Similarity 21.9%;
hos 106: Conservative 68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IPk003368;
                                                                                                                                                               1134 1:
1723 AA;
                                                                                                                                                                                                                                                                                                                                                                        Signal, Multigene family; Complete proteome
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                                                                                                                                                                                          1134
                                                                                                                                                               179594 MW.
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                              Score 143; 5B
Pred. No. 0.24;
                                                                                                                                                                                       POLY-SER.
I -> V (IN REF. 1)
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PROBABLE OUTER MEMBRANE FROTEIN PMP20.
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                                                                                                                                                                                                                                                                                      POLY-SER.
                                                                                                                                                            4507D5B8A0E3EF01 CRC64;
                                                         БВ 1; Length 1723;
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Matches

169 IVPAAAAIEFTSGRVL-MWSSYRNDAEGGSP7GITL/ISSWDFST3IVSDRTVTVTKHDMF 227

68; Mismatches 175; Indels 136;

21;

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"Sequence of a 20.7 kb region of yeast chromosome XI includes the MRF100 dene, an open reading frame (ORF) peasibly representing a nucleoside diphosphate kinase gene, tRNAs for His, Val and Trp in addition to seven ORFS with weak or no significant similarity to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sancharomyces ceterisiae (Baker's yedst).
Eukuryota, Fundi, Ascomycota, Saccharomycotina, Saccharomycetes:
Saccharomycetales; Saccharomycetaceac; Saccharomyces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   002629;
01-ULL-1993 (Rel. 26, Created)
01-ULL-1993 (Rel. 26, Last sequence update)
01-OCI-1996 (Rel. 34, Last annotation update)
NUCLINGERIK NUCLEO/REC190 (NUCLEAR FORE PROTEIN NUP100/NED100)
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Yeast 10.369-874(
-! FUNCTION: ESS
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This SWISS PROT entry is copyright. It is produced through a collaboration
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STRAIN-S288C)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        n'e S.k., kout M.P., Blobel G.;
new family of yeast nuclear pore complex proteins.";
cell Biol. 119:705-723(1992).
                                                                                                                        SIMILARITY: BELONGS TO THE GLEG FAMILY DE NUCLEOFORINS
                                                                                                                                                                                                        SUBSCELLULAR LOCATION: NUCLEAR PORE COMPLEX. DOMAIN: CONTAINS G.L-F-G REPEATS.
                                                                                                                                                                                                                                                                                                                          FUNTION: ESSENTIAL COMPONENT OF NUCLEAR PORE COMPLEX. NUCLEOPORINS MAY BE INVOLVED IN BOTH BINDING AND TRANSLOCATION THE PROTEINS DURING NUCLEOCYTOPLASMIC TRANSPORT.
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    TERROSTI VETER IN VERKULLIN KAN INSTRUMENTAL STANDARDE NO. 510

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Best Local Similarity
Matches 138, Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL; Z15035; CAA78753.1; -.
EMBL; Z75780; CAA53406.1; -.
EMBL; Z28068; CAA81905.1; -.
EMBL; Z828068; CAA81905.1; -.
FIR: B44402; B44402.
PIR: S39173; S39173.
PIR: S39173; S39173.
PIR: S39173; NUP100.
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DOMAIN 33 571 29 X 6 AA APPROXIMATE REPEATS OF
                                                                                                                                                                                                                                                                                                                                        444
                                                                                                                                                                                                                                                                                                                                                                                       443
646 SAYRLAPKPLPAPSSNGDAKFQKW 669
                                                                                          593 ALLGTTAVPSLQQAPYTNEQLESKISTENSTINPVKATTSKVNADMKR-------NSSLT 645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               208 CSSAFGTMNOQC-SLFGQQSQNTNNAFCNON-- QLGGSSFGSKPVGSGSI FGQSNNTI.G 263
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       505
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                                             YSFOV-----PSDSGVALPGYW 618
                                                                                                                                                                                         GONKPVFOGTTONTGLEGATGTN - SSAVGSTGKLEGONNNTLMVGTONVPPVNNT-TON 592
                                                                                                                                                                                                                                         LPDGRYFNG---GGGLCGDCTTNHFDAQTFTPNYTYNSNG---NLATR--PKITRTSTQS
                                                                                                                                                                                                                                                                                                                                     SVVI.PDGSTFITG--GQRRGIPFEDSTPVFTPEIYVPFQDTFYKQNPNSIVRAYHSISLL
                                                                                                                                                                                                                                                                                                                                                                                     LTMMPFGGNPTANQSGSGNSLFGTKPASTTG---SLFGNNTASTTVPSTNGL-FGNNANN 498
                                                                                                                                                                                                                                                                                                                                                                                                                                  GKILIFGGSPDYQDS-----DATTDAHITTLGEPGTSPNTYFASNGLYFARTFHT 443
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NEETREARYVRLVAITEANGQPWTSTAETNVFQASSYTAPQPGLGRWGPTIDLFIVPAAA 174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -- TMKTTQNVNGLSMLPPQDGNQNGWIGRHEVYLSSDGTNWGS-PVASGSWFADSITKYS 114
                                                                                                                                            VKVG-----GPITISTDSSISKASLIBYGT----Alhtvntdgrripltetnnggns
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FGAKPACTTGSLFGGNSSTQPNSLF -GTTNVPTSNTQSQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FGWK-----KGSVFQAGPSTAMNWYYTSGSGDVKSAGKRQSNRGVAPDAMCGNAVMYDAVK 393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEKNGE-----VYSPSSKTWTS-----LPNAKVNPMLTADKO - SLYPSDNH------AWL 337
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                                                                                                                                                                                                                                                                                        ST----STINTGLFGAK---PDSQSKPALGGGL----FGNSNSNS-----STI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        959 AA; 99988 MW; D3985F9901BBAA51 CRC64;
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FII-TYPE REGIETAGE PREDICTIES & (E. 4.1.21.96) (LACTOREPIN) (GELL WALL-ASSOCIATED SEKINE PROTEINASE) (LP151).
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FUNCTION, PROTPASE WHICH REPARE LAWN MEEK SPÄLLINS LÜBENG TAGE SECH CHOMIN DE THE BACHERIA ON MILK.

CATALXIIO ACILVITY: PRIÉBEDITARE ACILVITY WITH VERY BREAD SECHIFOTIFY, ALTH-UTU & ME OFBERTE TREFTESENCE TAVE BEEN WITED, ELS. LARGE HYDROHEGO, PRESTUGES IN THE 21 AND 47 ASTOLANG, AND PRO-IN THE P2 PRESTU SE WIN IN BEST KYWN FOR THE 31 AND THE AL CARDINS, ALTH-UDGH IT HAS BEEN MER UT BY BACKETS ACTIVE AND ARCHIVES.
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                                                                               1238 G--TVSSDTKTVNVGDTVAALDAQHHFSVDVPVNYGDNTIKVTATDEDGNFTTEQ 1290
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                                                                                                                                                                                           ASMAVTNADYAAQVULYADKAHTQLLKHEUTKVELTAPTETI'LKENNGSDOTSI'AT I'KVT 1237
                                                                                                                                                                                                                                                      AQIFTPNYLYNSNGNL-------ATRPKIT-----RTSTQSVKVG 557
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SECTION I
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Haterbro: FPR001798; Kelch.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; AF252281; AAF81717.1;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ontities requires a license agreement (Soo b to graww isbesib chasumonter
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518 CITNHFDAQIF 528
                                        558 HDAPASNridSkillDLVLKLLFKIDLWIMVALLSMilk
                                                                                                                                                                            403 POYOLSDAITDAHIIIILGEPGTS-----PNTVFASNGLYFARTFHTSVVLPDGSTFITGG 457
                                                                                                                                                                                                                                                                                                                                      462 GILYAVGGMONNKSATTIEKYDLRINIMIQA-SMMNSPFLQPGVAVIPDKIFVIGG FD 518
                                                                                                                                                                                                                         570 INTVERMINOSCOMTY-----VASMSTARSTYGVA------ALNGKLYSVGG- 610
                                                                                                                                                                                                                                                                    44 GSVFDAGFSTAMNWYYTSGSGDVKSAGKEQSNEGVAFFAMCGNAVMYDAVKGKILTFGGS 402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ILSSOE SCHOOLFICTLY: HIGHLY EXPRESSED IN BRAIN. SIMILARITY. CONTAINS I BTB/POZ DOMAIN. SIMILARITY: CONTAINS 6 KEICH REFEATS.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SUBCELLULAR LOCATION: CYTOPLASMIC
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                                                                                     ORROTOPEDSTPVETPETYVPEQUTFYKONINSTVBAYBSISLLIFFGRVINGGGGGGG 517
                                                                                                                                                                                                                                                                                                                   OCIVVICONDAKK--ISE YESSSESWIFGFFMQVAROYQSSATMSFGRVFTIGGSWSG 292
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76; Conservative
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751 AA
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556
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KELCH 2.
KELCH 3.
KELCH 4.
KELCH 5.
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                                             JAVGVCLLGERLYAVGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 751;
                                                                                                                                       GVAICEGELYAVGG 657
                                                                                                                                                                                                                                                                                                                                                              YRSDNHAWLFGWKK 342
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                                                                                                                                                  Matches 110; Conservative
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Best Local Similarity
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Q60106;
Q60106;
20-AUG-2001 (Rel. 40, Created)
20-AUG-2001 (Rel. 40, Last sequence update)
20-AUG-2001 (Rel. 40, Last annotation update)
X0-AUG-2001 (Rel. 40, Last annotation update)
XNHTHOMONAPEPSIN PROTEINASE) (XANTHOMONAS ASPARTIC
PROTEINASE) (CARROXYI PROTEINASE) (XCP).

XNHTHOMONAS SP (STRAIN T-22).
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ACT_SITE
SEQUENCE
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J. Biochem. 120:564-572(1996).
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PROPEP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (see http://www.lub.sib.cl/announce/
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "identification of catalytic residues of pepstatin inscusitive carboxyl proteicases from prokuryoted by site-directed mutagenesis."; J. Biol. Chem. 274:27815-27822(1999).
-i- CATALYTIC ACTIVITY: CLEAVAGE OF CASEIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A., AND CHARACTERIZATION MEDLINE 97058302; PubMed: 9902522;
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ptam; PF00801; PKD; 1.
smapT; Sm00089; PKD; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      or send an email to licensewisb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDIINE 99419069; PubMed=10488127;
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                                                                                                                                                                                                                                                                                                                                                                                               Hydrolase; Protease; Serine protease; Zymogen; Signal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEROPS; $53.002; -
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283 TSGAGLATVNSTITK-----VGSGTFANDPDSNGEWSLDS----QDIVGIAGGVKQLIFY 333
                                                                         224 VTVRYPMVCTQAAAAVAAHHQQDFAATYGGSSLPAATNI-AVGTITWGSTTQTVTDLNSF 282
                                                                                                           10 VIOLGA, SOMEOMEA DESMEDITMHITYGANGEPEPEREVILLMET - TONVINGISME 71
                                     72 PROTO -- NONGWICHHEVYLSSDOTNWOSPVASGSWEADSTIKYSNEETRPARYVRLVAI | 129
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585
827 AA;
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237
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722
                                                                                                                                                                      4.1%; Score 140.5; F
21.6%; Pred. No. 0.14;
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EWINIS, PRU0320; GPRCTEINHRPI,
SMARI; SN00320; WDAU; 10,
PROSITE; PS00678; WD_REPEATS_1; 10,
PROSITE; PS50082; WD_REPEATS_2; 10,
PROSITE; PS50254, WD_REPEATS_REGION; 1,
GIP-binding; Repeat; WD repeat.
                                                                                                                                   IntelPro: IPR001680; WD40, ETam; PF00400; WD40; 10. PKUNIS, PK00320; GPRCTEINH
                                                                                                                                                                                                                                                                          the European Bioinformatics Institute. There are no restrictions on use by non-profit institutions as long as its content is in no modified and this statement is not removed. Usage by and for commer notitions requires a line or paragraph.
                                                                                                                                                                                                                  EMBL: 128125; AAA85775.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     beta homologous domain.";
Gene 162:135-139(1995).
-!- FUNCTION: RESPONSIBLE FOR VEGETATIVE INCOMPATIBILITY THROUGH
SPECIFIC INTERACTIONS WITH DIFFERENT ALLELES OF THE UNLINKED GENE,
                                                                                                                                                                                                                                                            or send an email to license isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                    This SWISS PROT entry is copyright. It is produced thiolah a collaboration between the SWISS Institute of Bioinformatics, and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "A gene responsible for vegetative incompatibility in the fungus Podospora anserina encodes a protein with a GTP-binding motif and G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     15-JUL-1998 (Rel. 36, Created)
15-JUL-1998 (Rel. 36, Last sequence update)
20-ANG-2001 (Rel. 40, 19st annotation update)
VESETATIBLE INCOMPATIBILITY PROTEIN HET-E-1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDITNE=96006891; PubMed 7557402,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
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Best Lord) :
1302 SYGLGODHRWI 1312
                                                              1253 CTQTLNVC---- ----STATCLSFDYTNAYINTNTCRIQIATATMESLNOLSSPVCY 1301
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                                                                                                                                                                                                            1181 QSVAFS-----PDGQRVASGSSDKTI------
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KEFEAI
                                                                                              550 STOSYKYGGRITISTDSSISKASLIRYGTATHTVNTDQRRIPL-TLINNGGNSYSFQVPS 608
                                                                                                                                                                                                                                                                                                                                                                                                                      1051 ------GGWVQSV-----VFSPDGQRVAS-------GSDDH---- 1073
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1003 OTLEGHCGSVWSVAFSPDGQRVASGSDD-KTIKIWDTAS-----GTCTQTLEGH----- 1050
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REPEAT
                                609 DSGVALPGYWM 619
                                                                                                                                                                                                                                        437 FARTFHTSVVLPDGSTFITGGQRRGIPFEDSTPVFTPEIYVPEQDTFYKQNPNSIVRAYH 496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REPEAT
                                                                                                                                                                                                                                                                                                              390 DAVKG----KILTFGG-----SPDYQD-SDATTDAHI-ITLGEPGTSPNTVFASNGLY 436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REPEAT
                                                                                                                                                                                                                                                                                                                                                                                339 CWKKOSVFQAGPSTAMNWYYTSGS------GD-VKSAGKKQSNKGVAPDAMCGNAVMY 389
                                                                                                                                                                                                                                                                                                                                                                                                                                                      279 SDGRVFTIGGSWSGGVFEKNGEVYSPSSKTWTSLPNAKVNPMLTADKQGLYRSDNHAWLF 338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          219 VTVTKHDMFCFGISMDGNGQIVVTGGNFAKKISLYESSSESWIFGFDMQVARGYQSSAIM 278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              965 GHGSSVL-----SVAFSPDGQRV------ASGSGDKTIKIWDTASGTC---T 1002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             159 GPWCPTIDLFIVPAAAATEPTSGRVLMWSSYFNDAFGGSFGGITLISSWUPSICIVSDRT 218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  907 IKIWDAASGICTQTLEGHGGR VOSVAFS-PDGQRVASGSDDHTIKIWDAASGICTQILE 964
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   105 ---WFADSTTKYSNFETRPAPYVRLVAITEANGQPWTSIAE---INVFQASSYTAPOPGL 158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 862 DK···· TIKIWDTASGTGTOTLEGHGGSV··W···-SVAFSPDRER----VASGSDDKI 906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           802 APTDSMIKKIFKKEEPGWISTISVVEADWNACTOTLEGHGSSVLSVAFSALGURVASGSU 861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     49 FKPEHTYTIDMKTTONVNGLSMLPROFIRNONGWIGHHEVYLSSDGTNWGSPVASGS---- 104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3 AFIGSAISR ..... NNWAVTCESAGS - TNETNKAIFGNKETEWRTPYCANC - - - - D 48
                                                                                                                                  ····· KIWDTASGTCTQTLEGHGGWVQSVAFSPEGQRVASGSSDNTIKIWDTASGT 1252
                                                                                                                                                                    SISLLLPDGRVFNGGGGLCGDCTTNH----FDAQIFTPNYLYNSNGNLATRPKI----TRT 549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4.1%, Score 140, DB 1, Length 1356; diaraty 20.6%; Fred. No. 0.27, Conservative 73; Mismatches 246, Indels 214
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KHL1\_HUMAN

KHL1\_HUMAN STANDARD; PRT; 748 AA 09NR64: Q9NR65; Q9P238; Q9H4X4; 20-AUG-2001 (Rel. 40, Created) 20-AUG-2001 (Rel. 40, Last sequence update)

748 AA

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               this SWISS-PROL entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its age by non-profit institutions as long as its content is in no way
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Namaso F., Kikuno P., Ishikawa K.-1, Hirosawa M., Ohara O.; "Frediction of the coding sequences of unidentified human genes. XVII. the complete sequences of 100 new cDNA clones from brain which code for large proteins in vitro."; ENA Res. 7:143-150(2000).
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Nadaso F., Kikuno P., Ishikawa K.-1., Hirosawa M., Ohara O.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mammalia; Entheria; Primates; Catarrhini; Hominidae; Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Enkaryota: Motazoa; Chorduta; Craniafa; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens (Human).
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FINCIION: MAY PLAY A ROLE IN ORGANIZING THE ACTIN CYTOSKELETON
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE OF 179-409 FROM N.A.
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Pram; PF01844; Kelch;
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459 GTLYAVGGMURHKGATTIEKYDLETHINIQA SMMRGERUQEGVAVIDEKLEVIGG--RD 515
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ABG4G523; BAA56G14.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AF252283; AAF81719.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SM00225; BIB; 1.
                                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRO0501; KELCHREPEAT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PS50097;
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                                                                                                                                                                                 CI.
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KELCH 3.
                                                                                                                                                                                                                               Pred. No. 0.16;
                                                                                                                                                                                                                                                                        Score 138.5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                     KELCH 6
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                                                                                                                                                                                                                                                                                                                                                                                                            C11C43D8282F9FF9 CRC64;
                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                        DB 1: Length 748;
                                                                                                                                                                                          128,
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                                                                                                                                                                                          Gaps
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Repeat; Microtubules; Coiled coil.

Pfam; PF01344; Kelch;

EMBL; AL031579; CAA20875.1; InterPro; IPR001798; Kelch.

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SCHPO
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Schizosaccharomycos pomba (Fission yeast).
Pukaryota: Pubai: Ascomycota: Schizosaccharomycetes:
Schizosaccharomycetales: Schizosaccharomycetaceae:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   P87061;
15-JUL-1999 (Rel.
15-JUL-1999 (Rel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Wedder H., Wambutt R., Lyne M., Rajandream M.A., Harrell B.G.; Submitted (SEP-199P) to the EMIL/ST-HBLL/TEHJ databases. Submitted (SEP-199P) to the EMIL/ST-HBLL/TEHJ databases. 1-1-FUNCTION: CELL POLARITY FROTEIN. MAY ACT AS AN END MAPKER, DIRECTING THE GROWTH MACHINERY TO THE CELL POLES. MAY ALSO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mata J., Nurse P.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MUDILINE-97344085; PubMod-9200612;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TEA1 OR SPCC1223.06.
                                                                                                 modified and this statement is not removed. entitles requires a license agreement (see )
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRAIN-972;
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TIP ELONGATION ABERRANT PROTEIN 1 (CELL POLARITY PROTEIN TEA1).
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                                                                       or send an email to liceusewish sib.(h).
                                                                                                                                                                                                             the European Bioinformatics Institute.
                                                                                                                                                                                                                                           This SWISS-PROT entry is copyright. It is gradued through a rellaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
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EMPL; Y12709; CAA73246.1; -.
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                                                                                                                                              non-profit institutions as long as its content is and this statement is not removed. Usage by and to
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Best Local
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                                      SEQUENCE FROM N.A., AND SEQUENCE OF 50-56 STRAIN-2787 (9126:H27); MEDLINE-92325638; PubMcd-1625582;
Henz 1., Schmidt M.A.; "AIDA-1, the adhesin involved in diffuse adherence of the
                                                                                                                    NCBI_TaxID=562;
                                                                                                                                          Escherichia
                                                                                                                                                Bucteria; Proteobacteria; damma subdivision; Enterobacteriaceae;
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Similarity 15.9%; Fred. No. 0.34;
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                                        637 VIQ 639
                                                                                                                                                                 639 PELTTMAALSVSONHASNIVLENGGLLRVTSGGTATDTTVNSAGRLPIDDGGTINGTTTI 658
                                                                                                                                                                                                            544 PKITRTSTOSV-----KVGG--RIT---ISTDSSISKASLIRY---GT--ATHTV 583
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Mol. Microbiol 6:1539-1546(192).
-i- FUNCTION: THIS IS AN ADHESION PROTEIN NECESSARY FOR THE DIFFUSE ADHERENCE OF DIARRHEA-CAUSING ENTEROPATHOGENIC ESCHERICHIA COLI
751 QAQ 753
                                                                            699 NADGIVAGTNIQNDGNFILNLAENYDFETELSGSGV-----LVKDNTGIMTVAGTLT 750
                                                                                                                      584 NTDQRRIPLTLTNNG-----GNSYSFQVP-SDSGVALPGYWMLFVMNSAGVPSVASTIR 636
                                                                                                                                                                                                                                                                                                    513 GLCGDCTTNHFDAQIF----ATR 543
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-!- SUBCELLULAR LOCATION: OUTER MEMBRANE.
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                                                                                                                                                                                                                                                       GKASATVINEGGAQFVYDGCQVTGTNIKNGGTIRVDSGASALNIALSSGGNLFTSTGATL 638
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RESULT 14

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STANDARD;

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Hitmore R.L. Jr.,
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ul-FEB 1996 (Rel. 33, Last sequence update)
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Prim: PF02708: rompA_romp8; l.
Antigen: Glycoprotein: S-layer.
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-i- FUNCTION: MAJOR STRUCTURAL PROTEIN WHICH MAY PLAY A ROLE AS
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MISS ELLANDEDES: TIS C-TERMINUS BOTTENTIALLY MAY BEAR THE EPITOPES CONFERNING ANTI-LINICITY TO THE PROTEIN.
SIMILARITY: BELONGS TO THE RICKETTSIAE OMPA/OMPB FAMILY.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTNIVSCTVCCQQGNKFNTVALENCTTVKFLGNATFNGNTTIAANSTLQIGGNYTADCVA 451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IDLPIVPAAAAIEPTSGRVLMWSSYRNDAFGGS-----PGGTILTSSWDPSIGIVSD 216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KSACKRQSNRCVAPDAMCCNAVMYDAVKGKIITFG-GSPDYQDSDATTDAHIITL----- 419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NDCAVQFAHDTYLITETTNAA----GQGKTTFNPVVNNGTTLAAGTNL-------GSATN 345
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CEPGTSPNTVFASNCLYPA----PTFHTSVVI PPOSTFITGGQPRG--IP 46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ----FDAQIFTPNYL-YNSNGN---IATRPKITRTSTQSVKVGGRITIS 564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3.9%; Score 133.5;
20.1%; Pred. No. 0.6
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRT; 1654 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -GDQNNIVGLGLGSDNGTIVNATTLYAGI 601
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
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Matches 137; Conservative 95; Mismatches 268, Indels 183; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      over: Match 3.7%; Score 13.5; Different Local Similarity 20.1%; Pred. No. 0.89;
420 -----GEPGTSPNTVFASNGLYFA-- RTFHTSVVLPDGSTFITGGQRRG--IP 463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  THAIN 1334 1654
LUMAIN 1181 1188
SEQUENCE 1654 AA; 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         This SWISS-PROI entry is regardless it is produced through a collaboration between the Swiss institute of Bioinformatics and the EMBL outstation. The European Bioinformatics institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial contities requires a license agreement (Socher Lief Commercial to trempore to the commercial or send an email to license isb-sib.ch).
                                                              7JO PLAFINEGSKGVNVDT------ VLNVGEGVNEYATNITTIDANVGSEVENAG 745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Clouding expression and semplette analysis of the gene encoding the MDS surface exposed protein of Fickettsia fickettsin.";
MDS MISTORION: 1HD 120 KIA SUB-FACE-EXPOSED PROTEIN IS A MAJOR SIRUCTURAL PROTEIN WHICH MAT LLAY A NUMBER A RICKELISIAL VIRULENCE FACTOR ANYON HAMPERN BURNING INFECTION.

1- SUBCELLULAR LOCATION: OBLE WALL, THIS BACTHRUM IS COVERED BY A S-LAYER WITH HEXAGONAL SYMMETRY.
                                                                                                                                                                                            651 NDGAVQFAHDTYLITRITNAA---GQGKIIFNEVVNNGTTLAAGINL ------GSAIN 699
                                                                                                                                                                                                                                                                                                                      592 TROPSVVEASSLYNAOTELINGK IGTIGANNKTIRGENIGSSKIVLENGNVAINELVIG 650
                                                                                                                             366 KSAGKROSHROVAFDAMCCHAVMYDAVKGKILIFG-JSPDYQDSDAIIDAHIITL----- 419
                                                                                                                                                                                                                                                                        324 ---- - DKQQI YESDNHAWI FOWEE-----
                                                                                                                                                                                                                                                                                                                                                                                    270 --- ROYOSSAIMSDGKVETIJGSWSGGVFERH - GEVYSESSKIWISLFHAKVHEMLIA 323
                                                                                                                                                                                                                                                                                                                                                                                                                                                       537 ÜRFTLANDAKKTLELGGANFIGÄGGGTEDLQANGG-----TIKLESTONNIVVDEDLATA 591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       217 RIVIV---TKHOMFCFGISMDGNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        477 AELREGNAGSIFKLADGIVINGKVNUTALVGGALAAGIITEDGSATITGDIGNAGGAAAL 536
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      165 IDEPIVPAAAALEPISGKVEMWSSYRNDAFGGS------PGGIILTSSWDPSTGIVSD 216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         418 TGNFTGDASNPGNTAGVITH -DANGTLESASADANVAVTNNITAIEASGAGVVQLSGTHA 476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Antigen; S-layer; Cell wall
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ptam; PF02708; rompA_rompB; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          interPro: IPR003858; rumpA_rompB.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL: X16353; CAA34403.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE-92167802; PubMed-1724278; Slimore R.D. Jr., Clepiuk W. Jr., Policastro P.F., Hackstadt T.; The 120 kilodalton outer membrune protein (rOmp B) of kickertsia rickettsii is encoded by an unusually long open reading frame.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    113 YSNF---E1KPARYVRLVAITEANNOPWTSIAEINVFQASSYTAPQ---PGLGRWGPT-- 164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           evidence for protein processing from a large precursor."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  358 OSANATGOVNEKHIVDVGALGTTAFKTAASKVIITQDSNEGNTDEGNLAAQIKVENAITL 417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gilmore R.D. Jr., Joste N., McDonald G.A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE-90136987; PubMod-2515418,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SIMILARITY: BELONGS TO THE RICKETTSIAE OMPA/OMPB FAMILY.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  120 KDA SUKFACE-EXPOSED PROTEIN.
32 KDA BETA PEPTIDE.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QIVVIGGNUAKKISLYDSSSDSWIPGPDMQVA 269
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                                                                                                                                                                                                                                                              CSVECAGESTAMNWYY LSGSGDV 365
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Search completed: January 3, 2082, 39.19:39 Job time: 270 sec

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Sequence:
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Prod. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

<b>N</b> .	31008	Match	Match Length 58	Ē	E	Description
_	418.5	13	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	b2	<u>0</u> 53679	US3679 stiqmatella
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Kinashi d., Hopwood b.A.;
"A set of ordered cosmids and a detailed genetic and physical map for
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620 VQSGWYMMFVTDGEGTPSKAEWVRV 644
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01-MAR-2001 (TrEMBLrel 16, Created)
01-MAR-2001 (TrEMBLrel 16, Last sequence update)
01-MAR-2001 (TrEMBLrel 16, Last annotation update)
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SEQUENCE FROM N.A.

Johnson Hopson C., Brooks S., Buehler E., Chao Q., Khan S., Kim C.,

Shinn P., Altafi H., Bei Q., Chin C., Chiou J., Choi E., Conn L.,

Shinn P., Altafi H., Bei Q., Chin C., Chiou J., Choi E., Conn L.,

Chwa; A., Chazalec A., Bansen N., Howing B., Koo T., Lam B., Lee J.,

Lenz C., Li J., Liu A., Liu K., Liu S., Mukharsky N., Nduyen M.,

Palm C., Pham P., Sakano H., Schwartz J., Southwick A., Thaveri A.,
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U5150: Produ Bo. 1.66:32;
Klive 7c: Micmutobes 107: Hobits 105, Gapo
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Best Local Similarity 25.2

Matches 130) Conservative
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Cheak F. Shint F. Breaks S. Buebler E. Chao G. Johason Hopson G.
Khan S., Kim C., Altafi H., Bei B., Chin C., Chion J., Choi E.,
Frank F. Shint F. Altafi H., Bei B., Chin C., Chion J., Choi E.,
Frank F. Sandar, A. Shint F. Saladano H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro H., Saladaro 
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Khan S., Kim C., Altafi H., Bei B., Chin C., Chiou J., Choi E.,
Chan S., Kim C., Altafi H., Bei B., Chin C., Chiou J., Choi E.,
Chan J., Choway A., Ghouble A., Banaka N., Hawing R., Keo T., Lam B.
Lee J., Lenz C., Li J., Liu A., Liu J., Liu S., Mukharsky N.,
Nauyen M., Helli C., Pham P., Sakano H., Schwartz J., Southwick A.,
Nauyen M., Tarliad M., Vayskerg M., T., G., Davis F., Federspiel N.,
Thereni A., Ecker J.;
Schmitted (JUN 2666) to the EMBL/Genback/DDBJ databases.
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Exbaryeta, Viridiplantae, Streptoptyla, Exbryophyta; Trachoophyta;

Sperimatophyta, Majnoliophyta, eddloctyledocs, core eddlocts; Rosidae;

eurosids II, Brassicales, Brassicaceae, Arabidopsis.

NCBI_TaxID=3702;
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                                                                                    606 V----PSDSGVALPGYWMLFVMNSAGVPSVASTIKV 637
                                                                                                                                                                              452 TVNYGRVLRLRFIVSGRVKSPVKVTMLFPSFTTHSFSMHQRLLVLDHVTSFKLGISKIYE 511
                                                                                                                                                                                                                                                                   554 VKVGGP-----ITISTDSSISKASLIPYGTATHTVNTDQPRIPL--TLINNGGNSYSFQ 605
                                                                                                                                                                                                                                                                                                                                                             394 TILERDGRILVAGSNPHAFYNFTGVLFPTFFFRLFARSPSYLPTKYSSL--RPSIVDPRPQT 451
                                                                                                                                                                                                                                                                                                                                                                                                                                                  500 III PEGRVENGGG------GLCGECTTNHFFBAQI ETPNYLYNSNGNLATRPKITKTSTQS 553
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           334 MLLPDGNVLLINGGSSGTAAWELGREPVLHPDLYHPDKPVGSRFEVQNPSTIPPMYHSIA 393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         182 RVLMWS-----SYRNDAFGGSPG-GITLTS----SWDPSTGIVSDRTVTVTKHDMF 227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               58 PVIMYDRTNFGPSNISLPNGACRSSPGDAVSKTDCTAHSVEYDVALNRIRPLTV-QSNTW 116
VRVRTESSAILAPPGYYMVEVVNQ-DIPSEGLWVRL 546
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IKNLVLEVLVCGGAPKGSYNLSWRNTFVKALDTCARININDVNPQWIVEKMPRARVMGDM 333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VVLPDGST-FITGGQRRGIPFE-DSTPVFTPEIYVPEQ----DTFYKQNPNSIVRAYHSIS 459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VKG---KILTFGGSPDYQDSDATTDAHIITLGEPG----TSPNTVFASNGLYFARTFHTS 444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CONLETEANNRAILLDYSTNTVVRTYPETPGGDPRSY-----PSTGSAVLL-P 273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DNHAWLEGWKKGSVEQAGESTAMNWYYLSGSGLVKSAGKEQSNEGVAFDAMCGNAVMYDA 391
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RVFTIGGSWSGGVFEKNGEVYSPSSKTWTSLPNAKVNPMLT----ADKQGLY----RS 331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CSSGGVTPDGTLLQTGGDLDGERKVPLMDPCDDNSCDW1EVDNGLAAPRWYATNH1LPDG 176
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                                                                                                                                          MYXYSU
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VSVX5 FREIMINARY, PRT, 547 AA. USVX6;
UTMAY-1000 (TEMBLEL 13, Created)
Of MAY 2000 (TEMBLEL 13, Last sequence update)
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Eukarvola: Viridiplandae: Streptophyta: Embryophyta: Trabbeophyta:
Spermatophyta: Madrollophyta: endlestyledens: enre endlests; Posidae;
etrosids II: Krassicales: Brassicaccae, Arabidopsis.
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ol-MAR-2001 (ITEMBLIE). 16, Last sequence update)
ol-MAR-2001 (ITEMBLIE). 16, Last annotation update)
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                                                                                                                                                                                                                                                                  ional Similarity 24.4
                                                                                                                                                                                                                                                                                                                         594 LINNGON STOPAN FEBRSGVALPGIWMLFVMHSAGVPS 630
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                                                                                                                                                                                                                                                                                                                                                                                                                                                   54 K REKITKISIOS VKVAGRITISTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        280 EMIHASYMCEMIPLINCHVELINGSSEGTAAWELGETPVLAPDLYHPENDVGSBEESLEP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    172 PEVEMBILGNUBETANNRATLIBYVERTVVKTEPAIPGEGEERKY-
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24.4%; Pred. No. Romll:
Hive 78, Mismatches 211, Indels 104;
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Submitted (JUN-1999) to the EMRL/GroRank/DDBJ databases
EMBL, ALD49660; CAB41193.1; -.
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Spermatophyta; Magnoliophyta; endicotyledons: core endicots; Rosidae;
eurosids II; Brassicales; Brassicaceae; Arabidopsis.
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Mayer K.F.X., Lemcke K., Schueller e., Quetier F., Salano
Salmitted (APE 1999) to the IMPL/Newbork/DDHJ databases.
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SEQUENCE 547 AA: 61025 MW: FF9145B3F1F06A73 CRC64
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                                                                                                                                            516 GPSTAEIAPPGYYMIFLVH-AGIPSSAAWVQI 546
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                                                                                                                                                                                                                                                                                                                                     RILHWYFSIAGELTVDILLSVEIVADSFTTHSFAMNÇPMVII KII SVTEHQLINSYRVSAL 515
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                                                                                                                                                                                                                                           -PSDSGVALPGYWMLEVMNSAGVPSVASTIRV 637
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8 JUNSS
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Submitted (AFK-2000) t. the EMEL/Archick/Codet
rMHL: ALLKSY60: CARBBK97.1; t.
Sinterella xeax (Fusition graminoarum)
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N.bl. [axiD=5518]
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SubJunne 545 AA: 650/1 MW: 11745A77UBBB5305 OR064;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.

Monitori A., Casacuberta E., Puladomenech P., Mewes H.W., Lamoko K. Magor K.E. V. (aboutor F. 89) from it M. Submitted (MCV 1999) to the EMESCO-chark, MCBH Charabases
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Spermatophyla: Marmolicophyla: endicaryindons: even endicors: Bosidae:
curosids [1]: Brassicales: Brassicaceae: Arabidopsis
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F5K2c, 250.
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                                                                        SECTENCE ERUM N.A.
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Best Local Similarity 97.8%;
Marches 44, Censervative
                                                Mutches 126,
                                                                   Best
                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                Chin C., Sakato H., Yu C., Lee J., Lend C., Fham F., Terlumi M., Chin C., Chion J., Choi F., Chung M., Gonzalez A., Howing B., Liu A., vaystery M., Altafi H., Hrowks S., Rowhler E., Chao Q., Conn L., vaystery M., Hansen N., Johnson-Hopson C., Khan S., Kim C., Lam B., Chinda M., Nalyro M., Falm J., Skitch F., Suchbaich A., Cazis F., Ecker J., Federspiel N., Theologis A., Sachbaich A., Cazis F., The sequence of BAC FILLT from Arabidaysis thaliana chromosome l."
                                                                                                             Theologis; MAR-2000) to the EMBL/GenBab/DDBT databases EMBL; AC012188; AAE43943.1; -. TORAT1474291517E CE054; SECCENT = 64 AA; 67764 MW; 10EAT1474291517E CE054;
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SUBJUDINOU 45 AA; 4927 MM; IAA10900095230564 CR064;
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Syst. Appl Microbiol 20:111 123(1997)
EMBL; US1094; AAB94635.1; -.
HSSP: Q01745; 1GOF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Arabidopsis thaliana (Mouserear cress).
Entarpeta, Viriliplantas, Streetphyla: Embryophyta; Trachoophyta;
Petaniophyta, Myddiophyta, eddockjod ma, core cudicots, Fusid
curosids II: Brassicales; Brassicaceac: Arabidopsis.
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InterPro: [PR00042]; FA58_C.
PROSITE: PS00018; EF_HAND: UNKNOWN_1
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Theologis A.;
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                                                               Local
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                                                Conservative
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                                                              7.1%; Score 241.5; 23.2%; Pred. No. 9e-
                                                79, Missutches 224, Indels 115, Caps
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Pred, No. 2.4e-10;
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G.0%: Score 206.5; DB 2
Host Local Similarity 22.7%; Pred. No. 8.7e-06;
Matches 193; Conservative 52; Mismatches 147
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Midmai, Hydroluse: Clycosiduse.
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01-07-2000 (FrEMBLIEL 15, Last sequence update)
01-30K 2-01 (DEEBBLIEL 17, Last annotation update)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          27 1498 AA; 156619 MW; D3628AA349534B7B CRC64;
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Mismatches 147;
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                          Indels 151; Gaps
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                                                                                                                                                                                        RESULT 11
Q912M3
Matches
                        Query Match
                                                                                                                                                                                  EMBL: AE004613; AA605263.1; -. Interpro: IPR001343; Hemlysn_Ca_bind. Interpro: IPR0034880; Phosphopant_attach. PRINIS: PR00343; CABNDNGRPT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                        PA1874
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-MAR-2001 (TrEMBLrel. 16, Created)
01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
HYPOTHEFICAL PROTEIN PA1874.
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                                                                           Hypothetical protein; Complete proteome.
SEQUENCE 2168 AA; 238414 MW; 13596AFAB2C4B899 CRC64;
                                                                                                                                                                                                                                                                                                                                               STRAIN-PAOL
                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                         Bacteria; Proteobacteria; gamma subdivision; Pseudomonadaceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                           Pseudomonas aeruginosa.
                                                                                                            PROSITE: PS00012, PHOSPHOPANTETHEIME: UNKNOWN_1.
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164; Conservative
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             Similarity
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             5.8%; Score 200; DB 2; Length 2468; 19.7%; Pred. No. 4.7e-05;
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SELUENCE EROM N.A.
SIRAIN A3(2);
Olimet K., Harris
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HYPOTHELICAL 145.0 KBA PROPERLY
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Hest Edgal Similarity 21.8%; Pred. No. 9e-
Matches 132, Conservative 84, Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
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Best Local :
                                                                                                                                                                                                                                                                                                                            Signal.
SICMAL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-NCV-1996 (TrEMBLEEL 0),
01-NOV-1996 (TrEMBLEEL 0),
01-AUG 1998 (TrEMBLEEL 07,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1340 VY-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1162 PAGTAGTSATWQVTAAYAHEGATPTVSTGAFAAVTDEPVLAPASTTATADSENTSSGASE 1221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDIJNE-97000351; PubMed=8643435; Redenbach M., Kieser H.M., Denapaite D., Eichner
                                                                                                                                                                                                                                                                    SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukarycta, Eusji: Masidiomyseta, Hymenomysetes; Hymenomysetidae;
Aphyllophorales; Corticiaceae; Phanerochaete.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Phanerochaete chrysosporium
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Submitted (JUL-1998) to the EMBL/GenBank/DDBJ databases \{2\}
                                                                                                                                                                                                                                                                                                CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                  EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Kersten P., Witek C., Vanden Wymelenenberg A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=5306;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GLYOXAL OXIDASE PRECURSOR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q01773;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  001773
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1281 YEVAVSDDGEAW-TTVATGTIKDVPRTQRVSFDRVRASYVRFTALDALNGQPYAAAAEMR 13349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1222 GPVSNYLDGDAGTIWHTEYTTSQAFY-FHWVTLKLGGAALVDGEGYLGPQSDGFNGFVAFL 1280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "A set of ordered cosmids and a detailed genetic and physical map for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Kinashi H., Hopwood D.A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRAIN-A3(2);
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Submitted (JUI-1998) to the EMHL/G-BBank/DDBT databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Parkhill J., Barrell B.G., Rajandream M.A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                               139 SIAEINVEQASSYTAP----QPGLGRWGPTIDLPIVPAAAAIEPTSGRVLMWSSYRNDAF 194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    145 VEQASSYTAPOPGLGRWGPTIDLP 168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          y Match
Local Similarit; 26.5%; Pred. No. 3.5e-05;
hes 54, Conservative 25, Mismatches 69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 85 HEVYLSSDGTNWGSPVASGSWFADSTTKYSNFETRPARYVRLVAITEANGGPWTSIAEIN 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  25 NECNKAIDGNKDIFWHIFYGANGDFKFFHTYTIDMKTIQNVNGLSMLPRODGNQNGWIGR 84
                                                                                                                                                                                                                                                                                                                                                                                              Bacteriol. 0:0-0(0).
BL; L47287; AAA87595.1; -.
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                                                                                                                                                                                                                                                             1 22 F
23 559 G
559 AA; 59140 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -GVPVDLP 1348
<del>-</del>
                                                                                             84, Mismatches 221, Indels 169,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Last annotation update)
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                                                                                                                                                                                                                                                             POTENTIAL:
GLYGXAL OXIDASE:
1; 5145FA1E429B8E68 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Last sequence update)
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                                                                                                                                                            Length 559;
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                                                                                                 SAPS
                                                                                                 30;
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Enkaryota, Fundi, hasidiowycota, Hymenomycetcs; Hymenomycetidae;
Aphyllophorales; Corticiaceae; Phanerochaete.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      51.X1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q01772 PRELIMINARY; PRT; 559 AA. q0 1772; Q01845; U1-N-V-1796 (FERMBLECT, 01, Created) U1-N-V-1796 (FERMBLECT, 01, Last sequence update) U1-N-V-1798 (FERMBLECT, UB, Last amoutation update)
                                                                                      EMBL: 1.47286; AAA87594.1; -. EMBL: L18991; AAA84747.1; -.
                                                                                                                                                                                                                                                   *Cloning and characterization of cDNA encoding glyoxal oxidase,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Phanerochaete chrysosporium.
                                                       Signal; Peroxidase.
                                                                                                                                                     Phaneiochaete chrysosporium.":
Proc. Natl. Acad. Sci. U.S.A. 90:7411-7412(1993)
                                                                                                                                                                                                                       H202-producing enzyme from the liquin-degrading basidiomycete
                                                                                                                                                                                                                                                                                                                            MEDITINE- 93348282; PubMed-8346264;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Kersten P., Witek C., Vanden Wymelenenberg A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SLYOXAL OXIDASE (GLX1) PRECURSOR (GLX1).
                                                                                                                                                                                                                                                                                                                                                               SEQUENCE OF 1-529 FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       624 NSAGVP 629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "45 MISSINE 554
                                                                                                                                                                                                                                                                                                                                                                                                                                 Bacteriol. 0:0-0(0).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CHQPEKINGESIWGALWDLDISTVRPESVLT---DSFCASGALLSNGTMVSMGGTPGGTG 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GASP: --GGITLISSWDPSTGIVSDRTVTVTKHDMFCPGISMDGNGQIVVTGGNDA--- 247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STLAVVSTAAATTAARAASDARG-WREDLKINISGIVALEAIVVNSSLVVIF --- DRAT 57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PEQUIPYKONPN-----SIVRAYHSISILLPDGRVFNGGG ····---GLCGDCTINH 522
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GUSWSGGVEEKNGEVYSP------SSKTWTSI PNAKVNPMITADKQGLYRSDN 333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GESSHAFHSSARLVEMESSISADRKSLIFTAPPNGKVEFPGPAVVELTIDDVTSPGERVM 548
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559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        last annotation update)
POTENTIAL.
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Genome Res. 0:0-0(2001)
                                                                                                                                                                                         Lactococcus lactis (subsp. lactis) (Streptococcus lactis).
Bacteria; Firmicutes; Bacillus/Clostridium group; Streptococcaceae;
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                     lactis.
                                                       Bolotin A., Wincker P., Mauger S., Jaillon O., Malarme K., weissenbach J., Ehrlich S.D., Sorokin A.:
                                                                                                                                                     NCBI_TaxID-1360;
                                     "The complete genome sequence of the lactic acid bacterium Lactococcus
                                                                                               STRAIN-IL.1403;
                                                                                                                   SEQUENCE FROM N.A.
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SEQUENCE SEQUENCE	SEQUENCE 1441 AA. 142946 MW: 4CD4ABC561BAL5BA CRC64;
owery Match best Local : Matches 15	Y Match Local Similarity 22.9%; Prod. No. 9.00077; Length 1441; Hes 158; Conservative 82; Mismatches 212, Indeis Zoo; Gaps 40;
87 818	VYLSSDOTNWGSPV-ASSSWEADSITKYSNEETRPARYVRLVAI 129 
130 878	بر ي
178	PTSGPVLMWSSYRNDAFGGSPGGITLISSW-DPSIGIVSDRIVTVIKHDMFCPGISMDG-235:::  ::  ::  ::  :  :  :  :  :  :  :  :
236 981	
285	TIGGSW3: GGVFLANGEVYSPSSKTWTSLPNAKVNPM 320 
321 1095	LTADKQGIYRSDNHAWLEGWKKGSVECADDSTAMNWYYT
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404 1190	DYODSDAFIDAHI
435 1248	LYFARTFHTSVVLPD3SIFITGGQRRGIPFEDSTPVFTPETYVPEQ 480
1299 1299	DIFYKONPNSIVRAYHSISLCLEDGRVENGGGGGGGGGGTINHEDAQIET 529
530 1354	PN-YLYNSNONLAIRPKITPISTOSYKYSÖKI "FISILASISKASLIKYGTAIHIVNID 586 
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Fred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

### SUMMARIES

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Jost Lacul Similarity 63.0%; Pred. No. 6.5e-178;
Matches 4+2; Conservative 83; Mismatches 146; Indels 1
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APPLICANT: Berka, Randy M.
APPLICANT: Rey, Michael W.
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                                                                        TELEFAX: (904) 372-580
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Patti, Joseph TITLE OF THVENTION of Oloned Forphyromonas dindivalls Genes TITLE OF INVENTION and Probes to: the Detection of Periodontal Disease NUMBER OF SEQUENCES: 29 CORRESTENDENCE ADDRESS: ADDRESSEE: Tod W. Whitlook STREET: 2421 N.W. 41st Street, Suite A-1
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                                                                                                                                                                                                REGISTRATION NUMBER: 36,965
RETHER TO THE PROPERTY NUMBER: UF
TELECOMMUNICATION INFORMATION:
TELEPHONE: (904) 375-8100
                                                                                                                                                                                                                                                                                                                                                          ATTORNEY/AGENT INFORMATION:
NAME: Whitlock, Ted W.
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CLASSIFICATION: 424
PRICE APPLICATION DATA:
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APPLICANT: Parti,
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APPLICATION NUMBER: US 08/353,485
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TCELSY, lipo-
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ALLOENEY/AGENI INFORMATION:
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                                            278 MSDGR---VETTGGSWSGGVFEKNGEVYSPSSKTWTSLPNAKVNPMLTADKQGLYRSDNH 334
                                                                                                                                                                                                                                                                      447 MKAKNWQEWTQQAAKQALTINWYYADVNGNIGYVHTGAYPDBQSGHDPKLPVPGTGKWDW 506
                                                                                                                                                                                                                                                                                                                   211 SAPTTLAVQESNYPLK+NQQNSQTAALLPKYDLFAFMLLKFAKGADGALLAL1AGKNEET 270
                                                                                     55% VTFIDRITEOKPRITADOAWDVI------ROTSRODLNIKIFI--PTLOAA---TSGLT 600
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             271 IVAQEAQGGANGLAGYPTTSNMWVIGKSKAQDAKAIMV----NGPQEGWYAPAYTYGIGL 326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AUTHORS: Bock, A TITLE. Fedicillib acylase from E.coli: unique TITLE: gene-protein realtion. JOUKNAL. Rucleic Acids Res. VALUME: 14 PASES. 5713-5727 DAIE: 1986
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TELEX: 380816 COOLEY PA
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QSDPRRQLVETL-TRWIN-----TNLLNDDGKTWQQPGSAILN----------
                                                                                                                                  TYTYTKHEMFCP::ISMIGNGQIVVTGCNBAKKTSLYDSSSNSWIPGPPMQVARGYQSSAT 277
                                                                                                                                                                                 KGLLPFEMNPKVYNPQSGYTANWNNSPQKDYPASDLFAFLWGG+------ADR 552
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Haug, H
Buckel, P
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8-04 541-780-5
Sequence 5, Application US/08541780
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AUTHERS: Schumacher, G
AUTHORS: Sizmann, D
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TELEPHONE: 415-494-7622
TELEFAX: 419-857-0563
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ATTEMATIVAGE IN THE APR-1990
NAME: KAE-VENTEK PH.D., HARBAKA
REGISTRATICH MEMPIE: 12,750
REFERENCE/IMPET NUMBER: GRPG-027/00US
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LENGIH: 846 amino acids
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PRIOR APPLICATION DATA:
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COMPUTEK: IBM PC comparible
OPERATING SYSTEM: PC:DOS/MS-DOS
SOFTWARE: Patentic Release #1.0, Version #1.25 (PPO)
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                                                  AUTHORS: Buckel,
AUTHORS: Buck, A
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Penicillin acylase from E.coli: unique
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; Sequence 2, Application US/09346237A ; Patent No. 6265197
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                      APPLICANT: Bisqard Frantzen, Henrik
APPLICANT: Svendsen, Allan
TITLE OF INVENTION: Starch Debranching Enzymos
FILE REFERENCE: 5629-200-US
CURRENT FILLIATION NUMBER, US/05/346,237A
CURRENT FILLING DATE: 1999-07-01
                                                                                                                                                                                   ; GENERAL INFORMATION:
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EARLIER APPLICATION NUMBER: PA 1998 00868
                                                                                                                                                                                                                                                                                                                                                                                                                           494 AYBSISILI PINGPVENGGGGL/CODCT/UNHFDAQI 527
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 335 AWLEGWKKGSVFQAGPSTAMNWYYTSGSGDVKSAGKRQSNEGVAPDAMCGNAVMYDAVKG 394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         278 MEIGE---VETTGOSWSOOVEEKNOEVVESSETWISLEMAKVNEMITADELGLYESDNH 334
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 271 IVACEACOGANGLAGYPTTSNMWVIGKSKACDAKAIMV----NGPOPGWYAPAYTYGIGI. 326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        211 SAPTTIAVQESNYPI KENÇÜNSÇTAALLERKYDI.PARMEDRIPARJALGALLALI AGKNEEL 270
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PAGES: 5713:5727
DATE: 1986
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JUNGHMAL. Mucleic Acids Res.
VOLUME: 14
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19.9%; Pred. No. 0.016;
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                                                                             Sequence 3, Application US/03894818B Patent No. 6261822
                                                              GENERAL INFORMATION:
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Fest Local Similarity 19.4%: Pred. No. 0.018:
Matches 120: Conservative 63, Mishatches Edu; Indels 254; Caps
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EARLIER APPLICATION NUMBER: 60/094,35 (
EARLIER FILING DATE: 1998-07-28
     APPLICANT: TAKAKURA, Hikir
APPLICANT: MORISHITA, Mio
AFFLICANT: YAWAMDIO, Katsu
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                                                                                                                                                                                    612 LCKI-THSKAASELHAIN 628
                                                                                                                                                                                                                         THE RATHITATORY SALES
                                                                                                                                                                                                                                                  124 TPNYLYNSN----- UN--LAIRPHTTPILENSNYLYNGN 124
                                                                                                                                                                                                                                                                                                                          476 Y-VPFQDTEYEONENEIVEZYHEISTLLEDJKVFNJJJGLJGDCTINH-FDAOI-----F 528
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              277 ROTLARENTI ENVINSELLI NEGLIZZA ELERAZ LERANDI ISTUVNATUTOSATOSA 336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         389 YDAVKGKILIEGGSPDYGDSDA.. ITDAHI------ ...ITLGEPGTSPNIVFASN 433
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         846 FQACHSIAM---- .... .... YWWY --ISOSIYVYKYANDESHCVAHDAMCCHAVM 588
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42 DSFRAVASALIPONIS ĮVOLIVEIOSW. IKDVSALHVIDESKGNEVWLVEGNSQIFYNE 99
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YAMAMOLO, Katsuhika
                                    TAKAKURA, Hikiru
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TELEFAX: (202) 737-3528
INFORMATION FOR SEQ ID NO: 3:
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OTHER INFORMATION: /note= Xaa at position 428 is Gly or Val.
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APPLICATION NUMBER: JP 323285/1995
ETITING DATE: 12-DEC-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MOLECHIE TYPE: peptide
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PRIOR APPLICATION NUMBER: F
34° VFQAGESTAMNWYYTSGSGDVKSAGKRUSNRGVAPDAMCGNAVMYDAVKGKILIFGGSPD 404
                                      340 YWDNANSDLDLYLYDENGN...---QVDYSYTAYYGFEKVGYYNPTDGTWTI.---- 385
                                                                         289 SWSGGVFEKNGEVYSBSSKTWTSLPNAKVNPMLTA----DKQGLYRSDNHAWLFGWKKGS 344
                                                                                                               303 INYDNYAKLVETGYVANKGSQTHQFVISGASFV-----TATL----- 339
                                                                                                                                                      231 ISMDGNGQIVVTG--GNDAKKTSLYDSSSDSWIPGPDMQVARGYOSSATMSDGRVFT1GG 288
                                                                                                                                                                                          245 TSMATERVAGIAALLIQAHISWTFDKVKTALI--ETADIVKEDEIADIAYGAGRVNAYKA 302
                                                                                                                                                                                                                             192 KYDVITSESSE GETAFORIKREFVVAFONWITTAAFASGISMOOFI ---- HJ.: :[] : :244
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APPLICATION NUMHER: US,
EILING DATE: 20-MAY-19
                                                                                                                                                                                                                                                                                                        150 SYTAPQPGLGRWGPTIDLPIVP-----AAAAIEPTSGRVLMWSSYRNDAFGGSPG 199
                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
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                                                                                                                                                                                                                                                                                                                                                                                 90 SSOGTNWGSPVASGSWFADSTTKYSNFETRPARYVRLVAITEANGUPWTSIAEINVFQAS 149
                                                                                                                                                                                                                                                                                                                                                                                                                   y Match
Local Similarity 19.1%; Pred. No. 0.0091; Longth 522,
Local Similarity 19.1%; Pred. No. 0.0091; Indels 172; Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE OF INVENTION. HYPERTHERMOSTABLE PROTEASE GENES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME: Browdy, Roger L.
REGISTRATION NUMBER: 25
REFERENCE/DOCKET NUMBER
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWAPE: Patentin Release #1.6, Version #1.30
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ASADA, Kiyozo
TSUNASAWA, Susumu
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second 10: Dk 4: Length 654:
kest local Similarity 19.1%; Pred. No. 0.013;
Matches 90: Conservative 57; Mismatches 151: Indels 172: Gaps
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INTERMATION FOR SEQ ID NO:
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AFFOREW ACHT HEROMATION:
AFFOREW FROMETION:
NAME: Hrowdy, Roder L.
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CORRESPONDENCE ADDRESS:
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FILING DATE: 07-NOV-1996
FRICK APPLICATION DATA:
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PRIOR APPLICATION DATA:
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PERATINI SYSTEM: PC-DOS/MS-DOS
SOFTWAKE: Patentin Release #1.0, Version #1.30
PURKENT APPLICATION DATA:
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REGISTRATION MUMIER: 25,618
REGERARYLYSESTEI, NUMMER: IAI
EELECOMBURICALUM INESEMATION:
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ISD SYTAPQPGLURWGPT1DLPIVP-----AAAALEPTSGKVLMWSSYRNDAFGGSPG 199
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TSUNASAWA, Susumu
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ASADA, Kiyoro
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202) 737-3528
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Best Local Similarity 19.4%; Pred. No. 0.038;
Matches 146; Conservative 75; Mismatches 256; Indels 277; Gaps
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APPLICANT: Brumm, Phillip J.
APPLICANT: Allen, Larry N.
APPLICANT: Brikun, Igor A.
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NUMBER OF SEQ ID NOS: 22
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598 NUMSQUITVABAČAK JA DAGSGŽITHENATITIENALI IVACSEDITIP I 1997AVIA 707.
                                                                                                                140 SEKDAEAAAQPAVSNAYLDASNQVLVKLSQPFTLGEGSSGFTVHDDTANKDIPVTSVSDA 159
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pitent No. 5646259
GENERAL INPORMATION:
APPLICANT: Bareakamp, Stephen I.
APPLICANT: St. Geme III. Joseph W.
LILLE OF INVENTION: datmophilia Adhesion Proteins
NUMBER OF SEQUENCES: 6
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INFORMATION FOR SEQ ID NO: 4:
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SEISTREFFENCY, FRIT STREE: A
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, Sequence 4, Application US/08685467 , Patent No. 6060059

GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Barenkamp,
ITILE OF INVENTION: HA
NUMBER OF SEQUENCES:
CORRESPONDENCE ADDRESS:

St. Geme III, Joseph W.

Stephen

HAEMOPHILUS ADHESION PROTEINS

US-08-685-467-4

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Matches 145; Conservative
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FELEPH-WE: (415) 781-1989
FELEFAX: (415) 398-3249
FELEX: 910 277259
INFORMATION FOR SEC ID NO. 4.
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CLASSIFICATION: 424
PRIO APPLICATION DATA:
APPLICATION NUMBER. US 08/2409 ONE
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ALFORMEY/AGENT INFORMATION:
NAME: SIDVAL ROBIO M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE CHARACTERISTICS:
LENGTH: 1912 amino acids
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                                                                                                                                                                                                                                                                                                                                                                                                               1855 TOKKKAN VOLVAKATMOAATE VKVERIDESATTEDTETEGANDALKAXDTETEKAC 1411
                                                         1521 NYKOVKPASANNOVENTDEVATYDTVDEVSGEKETTSV (VESKENGKRTEVKTGAKTSVT 1580
                                                                                                                                                                                                                                                                                               1412 KNIEVERIGENIIEALANGISV-----KSATVSDEISIGINGNKVNITSDTKGENFAKDS 1466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CSp4: LIVDATK-GASVAKGEFNAVTTDATTAQG------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1255 ENDALVANLIGBORHLY. JEVALAFYGI-GLERGIT-GRUEL-KYDNITI-GNN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3.1.75 ZZW BOLIZVIEGUIZAJBEBITRVEJALKTYKETÇNI ALETÇBKEBBAAVENAHEVDEVO 1054
                                                                                                                                                                            1467 KIGDDANIHENGIASTLTDTILLNSGATINEGGNGIIDNE: ----KKXAASVKDVENAGW 1520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TURRENT APPLIFATION DATA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                146 FWASSYTAPWPOLGRWGPTHILPTVPAAAATEPTSGFVLMWSSYRNDAFGGSPGGTHIIS 205
*85 YDAVKGKILTEG3SPDYQDSDATTCAH11TLGEPGTSPNTVFASNGLYFARTFHTSV--- 445
                                                                                                                   252 -----LYDSSSDSWIPGPDMUVARGYQSSATMSDGRVFT1GGSWSGGVFEKNGEVYSPSS 306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2.36 SWITELGTYSDETYTYTKHDMFCPGTEMDGNGQTVV------WCGNDAKKTS------- 251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SIKEEI: Four Embarca
CIIY: San Francisco
SIAIE. California
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RU LSSINIINWGSPVASGSWFA---DSTTKYSNFETRPARYVELVAITEANGQPWTSIAEINV 145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STRANDELNESS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             82, Mismatches 276; Indels 267; Caps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ------GKYVVVKCE------NGATATE 1354
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RESULT 12
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; Patent No. 5824791
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                                       INFORMATION FOR SEQ ID NO. 10
SEQUENCE CHARACTERISTICS:
LENGTH: 1732 amino acids
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APPLICANT: Tumwasorn, Somying
APPLICANT: Lopino, Guylaine
APPLICANT: Lopino, Guylaine
APPLICANT: Lantz, Mariling
APPLICANT: Han, Naiming
APPLICANT: Patti, Joseph
TITLE OF INVENTION. Cloned Forphyromonas gingivalis Genes
TITLE OF INVENTION: and Probes for the Detection of Periodontal Disease
NUMBER OF SEQUENCES: 29
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                          APPLICATION NUMBER: US 07/241,640 FILING DATE: 08-SEP-1988 ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  METHOM TYPE: Floppy disk
COMPUTER: IBM PC compatible
GPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CUPETHT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CLASSIFICATION: 424
PRIOR APPLICATION DATA:
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                                                                                                                                                                TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                               CLASSIFICATION: 424
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PPROP APPLICATION DATA:
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                                                                                                                                                                                         REGISTRATION NUMBER: 36,965
RESERVENCE/DOCKET NUMBER: UF15.03
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TOPOLOGY:
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2421 N.W. 41st Street, Suite A-1
                                                                                                               (904) 375-8100
(904) 372-5800
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No. 118) (18) Indols (239) Caps
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APPLICANT: Lepino, Shylaibe
APPLICANT: Labtz, Marillyn
APPLICANT: Labtz, Marillyn
APPLICANT: Patti, Joseph
THILE OF INVENTION: "Noted Purphyromonas dictivalis demes
HILLE OF INVENTION: "Noted Purphyromonas dictivalis demes
NUMBER OF SEQUENCES: 12
TORRESPONDENCE ADJAPASE
ADDRESSEE: Ted W. Willionk
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PNGLSMLEGGERGANGERWITSTERFERWARSTWARSTSWEA - DSTIKYSNEEDE 119
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Outry Match 3.7%; Score 125.5; DB 2; Length 1732; Best Local Similarit; 21.5%, Fred. No. 0.13; Matches 151; Conservative 80; Mismatches 233; Indels 239; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IDIDEHEND. (904) 375-8100
TELEFAX: (904) 372-5800
INFORMATION FOR SEQ ID NO: 10
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8 353-485-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEIOR APPLICATION NUMBER: US 07/647,119
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                                                                                                      875 TOMEVEDDSPASYTYTVYRDGTKIKEGLTATTFFEEDGV-AAGNHEYCVEVK--------924
                                                                                                                                                  295 FEKNULYYSPESKIWISL PNAKYNPMLIA---DKQGLYFSDNHAWLFGWKKGSVFQAGP 350
                                                                                                                                                                                                         823 -----VYDYCITNPEPASGKMWIAGDGGNQPAR--YDDFTFEAGKKYTFTMRRAGMODG 874
                                                                                                                                                                                                                                                                                                          771 VIPATGELETSTASSNLYSANESYLVEANADEVVIT
                                                                                                                                                                                                                                                                                                                                                                                                                   715 GSREVKHIGDGLEVTIEP-ANDVHANEAKVVLAA---DNVWGDNTGYQFLLDADHNTFGS 770
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    153 ----IGPWGPTIDLPIVPAAAAIEPTSGFVIMWSSYPNDAEGGSPG------GI 201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         664 -----VVITRSNYLP--VIKQTQVGEPSPYQPVSNLTATTQQQKVTLKWEAPSAKKAE 714
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            615 QASYSI-----QASAGSY-VALSKUGVLYGTGVANASGVATVSMTKQITENGNYD-- 663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     558 WAGNLAATHAGNIGNITHIG-AHYYWEA-YHVLGDGSVMPYPAMPK-TNTYTLPASIPQN 614
                                                                                                                                                                                                                                                           246 DAKKTSLYD-----SSSDSWIPGP-DMQVARGYQSSATMSDGR--VFTIGGSWSGGV-294
                                                                                                                                                                                                                                                                                                                                                              202 TLISSWDESTCIVS .....
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (5) STAMNWYYTS:1SG.....DVKSAGKRQSNEGVAPDAMGGNAV....-MYDAVKG........394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STREET: 2421 N.W. 41st Street, Suite A-1 CITY: Gainesville STATE: FL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILING DATE: 29
CLASSIFICATION:
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CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       14 WAVTCDSAQSGNECNKAIDGNKDTFWHTFYGANGD------PKPPHTYTIDMKTIQN 64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IMPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE/TOWNER NUMBER: 36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: US 07/241,640 FILLING DATE: 08-SEP-1988
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FILING DATE: 09-DEC-1994
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                65 VNGLSMLPRQDGNQNGWIGRHEVYLSSDGTNWGSPVASGSWFA-----DSTTKYSNFETR 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LENGIH:
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·····YTAGVSPKVCKDVTVEG---SNETADVQNTTGSSVGQKVTI KWDAFNGTPNPN | 974
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SRIFE 14

CONTROL OF TABLE 17

Sequence 37, Application US/08687702

Forest No. 5922856

GENLEAR NAMAL A. ARALLA R.

APPLICANT: Green Michael R.

APPLICANT: Green Michael R.

TITLE OF INVENTION: HOVEL HUMAN PROTEIN CRICICAL

TITLE OF INVENTION: FOR HIV REPLICATION

THERE ARE SHOULD SECURE 17
                                                                                                                                                                                                                                                                                                                                             Geory March 3.6%; Score 124.5; DB 2: Length 353; Best Local Similarity 24.3%, Fred. No. 6.015, Endels 113; Saps Matches 86, Cusacrative 27, Mismatches 126, Indels 113; Saps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IELEX: 200154
INF RMACISM FIJK SING ID NO: 37:
SE JOEN E CHARACTERISTICS:
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8-687-702-37
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION BEHBER: 60/00
FILLING DAIL: 27 JON 1995
ALLORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1103 KSPKALKGKIQGIWKQNIVDLPAGIKYVAFKBFQSTDMFYIDL 1145
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15.EN-MUCHICALION INFORMATION:
15.ELEPHONE: 617-542-5070
15.LEPHA: 617-542-6906
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                                              , HC ----- 3H,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      512 QSVK-VGJKILIS-INSSISKASLIKYGIAIHTVNTDQFKIPL 592
                                                                                                                                                                                                                                          188 TSIAEINVE-----QASSYTAPQPGLGKWGPTIDLPIV--PAAAA1EPTSGRVL----- 184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEFTWAKE:
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                                                                                                                                                 21 TIPGQASVFGSASSAASVFSFSQPGFS-----SVPAFGQPASSTPTSTSGSVFGAASST 74
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TAPIC MY: Timear
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REGISTRATION NUMBER:
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APPLICANT: Brumm, Phillip J.
APPLICANT: Allen, Larry N.
APPLICANT: Brikun, Igor A.
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322 TADKOGLYPSDNHAWLEGWKKGSVFQAGPSLAM-------NWYY---TSGSGD-364
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